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FORTY-FIRST ANNUAL REPORT OF THE WESTERN WHEAT QUALITY LABORATORY 1988 CROP¹

Quality Characteristics of Cultivars and New Germplasm of Wheat Bred and Grown in the Western United States²

United States Department of Agriculture
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and
Agricultural Experiment Stations
of the United States

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G.L. Rubenthaler, C.F. Morris, H.C. Jeffers, A.D. Bettge
D.A. Engle, M. L. Baldrige, B.S. Patterson, T.M. Durfee and R.L. Ader³

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¹This is a Progress Report of cooperative investigations of the milling and baking characteristics of current commercial cultivars and new germplasm of wheat grown in the Western United States. Interpretation of the data may be changed with further experimentation; therefore, data in this report are not for publication, display, or distribution without prior written approval of the Agricultural Research Service, USDA and the cooperating agencies concerned.

²In cooperation with the Arizona, California, Idaho, Montana, Oregon, Utah, and Washington Agricultural Experiment Stations who developed and grew the experimental wheat selections studied.

³Research Food Technologist (retired), Research Chemist (new Director, WWQL), Food Technologist, Physical Science Technician, Physical Science Technician, Biological Technician, Biological Technician, and Clerk-Typists, respectively, U.S. Department of Agriculture, Agricultural Research Service, assigned to the Western Wheat Quality Laboratory, Wheat Genetics, Quality, Physiology and Disease Unit, Pullman, Washington. Credit is due Garrison King, Washington State University Laboratory Technician II, for the flour milling and physical-chemical determinations made on early generation material. This work was supported by grant funds from the Washington Wheat Commission/Washington State Department of Agriculture. The technical assistance of Barbara C. Davis, WSU Lab. Tech. I, is gratefully acknowledged.

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In cooperation with the Pacific Northwest Grain Council (PNWGC), milling & grading evaluations were made on commercial samples representing the 1988 wheat crop of WA, OR, and ID. The data were used in this study & are presented. See Nursery Code #05.

Also in cooperation with the PNWGC, 12 advanced experimental wheat samples were past milled and sent to a group of collaborators for evaluations. Collaborators include 4 mills in Japan, 3 in Korea, 1 in the Philippines, 1 in Morocco, 1 in Egypt, and 1 domestic milling and baking firm. Results of our analyses are in Nursery Code #06. Final publication of all collaborator results were assembled and published as the 1988 Annual Report-1988 Crop-PNW Grain Council Collaborative Tests.

In cooperation with U.S. Wheat Associates, Inc. we again participated in a Wheat Mills Export Cargo analysis project. A set of samples (20) was collected from shipping cargo and is reported as Nursery Code #07. Other groups of 20 samples were collected and are reported as Nursery Codes #08 and #09. The object of the cargo sample project was to follow the quality of export wheat through the marketing year. Results show a high degree of uniformity.

In cooperation with Nishiki Flour Milling Company, Japan, and U.S. Wheat Associates, Tokyo, we evaluated 20 soft white wheats which represented current varieties. These samples were collected with their various variety preserved as also in OR, ID, and WA. The objective was to determine the variability in functional baking quality of Japanese products within a variety and among locations. This was the third year of a 3-year study. Data are presented in Nursery Code #04.

SUMMARY OF ACCOMPLISHMENTS

Western Wheat Quality Laboratory 1988 Crop

The milling and baking quality of 3076 experimental wheat germplasm lines (F_5 and later) grown in the Western United States in the crop year 1988 were evaluated. These included 844 from WA, 766 (OR), 158 (ID), 542 (CA), 112 from western regional nurseries, 91 from commercial breeders, and 563 for other researchers, export cargos, and harvest survey projects. Evaluation criteria used to determine acceptable quality were standard tests for flour yield, protein, ash, and color; cookie diameter, bread loaf volume and crumb grain; dough mixing requirements and water absorption; Japanese sponge cake volume and score; and Udon noodle yield and score. About 25% of these samples were judged as having promising overall quality to fit their proper market class. Studies included materials developed for snowmold, dwarf bunt, foot rot and other disease resistance as well as various crop management practices and salinity stress tolerance. These wheats represent new germplasm with potential improvement for both resistance to agronomic production hazards and desirable quality for domestic and export markets. Results were provided to each cooperator, as completed. Copies of these data are provided here in Nursery Codes #1 through #99. See the Index of Nurseries for nursery title, location and breeder.

In cooperation with the Pacific Northwest Grains Council (PNWGC), milling and baking evaluations were made on commercial composites representing the 1988 wheat crop of WA, OR, and ID. The data were used in their marketing brochures. See Nursery Code #05.

Also in cooperation with the PNWGC, 12 advanced experimental wheat selections were pilot milled and sent to a group of collaborators for evaluations. Collaborators include 4 mills in Japan, 2 in Korea, 1 in the Philippines, 1 in Morocco, 1 in Egypt, and 11 domestic milling and baking firms. Results of our analyses are in Nursery Code #91. Final publication of all collaborator results were assembled and published as the *18th Annual Report-1988 Crop-PNW Grains Council Collaborator Tests*.

In cooperation with U.S. Wheat Associates, Inc., we again participated in a Western White Export Cargo analysis project. A set of samples (55) was collected from out-going cargos and is reported as Nursery Code #73. Other groups of 55 samples were collected and are reported as Nursery Codes #93 and #99. The object of the cargo sample project was to follow the end-use qualities of export shipments through the marketing year. Results show a high degree of uniformity.

In cooperation with Nisshin Flour Milling Company, Japan, and U.S. Wheat Associates in Tokyo, we evaluated 23 soft white wheats which represented current varieties. These samples were collected with their varietal identity preserved at sites in OR, ID, and WA. The objective was to determine the variability in functional baking quality of Japanese products within a variety and among locations. This was the third year of a 3-year study. Data are presented in Nursery Code #04.

A second year of analyses comparing western soft white with eastern soft red winter wheats was done. As with last year, the prominent cultivars from each region were grown in nurseries both here and there (Ohio, Michigan and Indiana). The study is shared by the ARS, Soft Wheat Quality Lab at Wooster, Ohio. Objectives were to determine if the eastern wheats yield softer textured baked products. To date, it appears the cultivars are not different when grown in the same environments. Both classes seem to be softest when grown in the eastern region. Data from the Western Wheat Quality Lab are presented under Nursery Code #95. Data from the Soft Wheat Quality Lab were not available for inclusion in this report at the time of publication.

The milling and baking properties of an additional 1400 early generation samples from the 1988 crop breeding programs were also evaluated. These experimental wheats resulted from crosses aimed at developing resistance to snow mold, foot rot, dwarf smut, rusts, and adaptability to various crop management practices, and represent all classes grown in the region. Tests used to characterize end-use quality were flour yield, break flour yield (soft wheats), kernel hardness, flour protein, mixograph, water absorption and dough properties, and alkaline water retention capacity. About 25% (340) were scored as promising to meet the overall quality of their market classes. About 1,000 micro (10-g) F_3 samples were also evaluated for milling quality. Crosses made to germplasm sources for sprouting resistance were analyzed for alpha-amylase activity. No data are included here, it was sent only to the breeder who submitted the samples.

INTRODUCTION

This is the Forty-first Annual Report of the Western Wheat Quality Laboratory of cooperative investigations with breeders, geneticists, pathologists, and other scientists to evaluate the milling and baking quality characteristics of experimental wheat selections grown and harvested as the 1988 crop. These investigations include several market classes and sub-classes of wheat that are commercially grown in the Pacific Northwest and the Western region and relate to wheat quality for commercial production and consumer acceptance. These studies deal with the physical-chemical flour properties associated with a cultivar's suitability for commercial pastry, noodle, and bread products.

The data have been arranged by nursery (NURSCO, see Index of Nurseries, pages 17-19) and the varieties and selections are listed in the tables in order of their assigned laboratory number (LABNUM). Mixograms were run on all samples evaluated, but none were reproduced for inclusion in this report. Alternatively, each mixogram was characterized by type as described in the Methods section. A description of all methods used to determine physical/chemical, milling, and baking quality is provided in the Methods section.

Several changes in the format of the Annual Report have been implemented, perhaps most noticeable a conversion of much of the introductory sections to computer soft fonts. Also the order of some of these sections has been changed. All data tables listed by Nursery Code are unchanged in format.

Gordon L. Rubenthaler retired as director of the lab in June of 1989. Herb Jeffers served as interim director until November 1989 at which time Craig F. Morris was hired.

DESCRIPTION OF ABBREVIATIONS

A computer program stores, calculates, retrieves, and tabulates the milling and baking data contained in this report. The following is a list of abbreviations used as column headings in the tables of data. Refer also to the Methods and References sections for more detailed explanations of data generation.

BABS	Bake water absorption (percent by weight, corrected to 14% moisture basis)
BABSC	Bake water absorption corrected (BABS corrected to the mean protein of the nursery)
BCRGR	Bread crumb grain rating code (see Table 1, page 3)
CAVOL	Japanese sponge cake volume (cc)
CODI	Cookie diameter (cm)
CODIC	Cookie diameter corrected (CODI corrected to the mean protein of the nursery--see Table 2 or 3, pages 3 and 4)
FABS	Farinograph water absorption (percent by weight, corrected to 14% moisture basis)
FABSC	Farinograph water absorption corrected (FABS corrected to mean protein of the nursery)
FASH	Flour ash (percent by weight, corrected to 14% moisture basis)
FMIST	Flour moisture (percent by weight)
FPEAK	Farinograph mixing peak time (minutes)
FPROT	Flour protein (percent by weight, corrected to 14% moisture basis)
FSTAB	Farinograph stability time (minutes)
FYELD	Flour yield (percent flour by weight of grain)
IDNO	CI, PI or selection identification number
LABNUM	Laboratory number (first two digits indicate the crop year)
LVOL	Bread loaf volume (cc)
LVOLC	Bread loaf volume corrected (LVOL corrected to the mean protein of the nursery--see Table 2 or 3, pages 3 and 4)
MABS	Mixograph absorption (percent by weight, corrected to 14% moisture basis)
MABSC	Mixograph absorption corrected (MABS corrected to the mean protein of the nursery)
MSCOR	Milling score (see Methods)
MTIME	Optimum bread dough mixing time
MTYPE	Mixograph type (see Mixograph Reference Chart, pages 12 and 13)
NOSCO	Noodle score (scale 1-100, see Methods)
NURSCO	Nursery code number (located in the upper left corner of the tables)
NYELD	Noodle yield (weighted score assigned to WTIN)
RMKS	Remarks (P=poor, Q=questionable)
SCSOR	Sponge cake score (scale 1-100, see Methods)
TWT	Test weight (lbs/bu, after scouring and cleaning)
VISC	Brookfield viscosity (observed x 7.5 for a predicted McMichael Viscosity)
VISCC	Brookfield viscosity corrected (VISC corrected to the mean protein of the nursery)

WDSI	Wheat Cibacron blue dye test for alpha-amylase
WFN	Wheat Falling Number test for alpha-amylase
WMIST	Wheat moisture (percent by weight)
WPROT	Wheat protein (percent by weight, corrected to 14% moisture basis)
WTIN	Noodle weight increase (percent water uptake after cooking)

Table 1. Code, meaning and abbreviation for bread crumb grain rating code (BCRGR).

<u>CODE</u>	<u>MEANING</u>	<u>ABBREVIATION</u>
1	Excellent	(S*)
2	Satisfactory	(S)
3	(Intermediate)	(Q-S)
4	Questionable-Satisfactory	(Q-S)
5	(Intermediate)	(Q-S)
6	Questionable	(Q)
7	(Intermediate)	(Q-U)
8	Questionable-Unsatisfactory	(Q-U)
9	Unsatisfactory	(U)

INTERPRETATION OF DATA

As in the past reports, evaluations are based on the results of the tests after adjustment to an average protein content of the nursery using correction factors derived from several years of data on particular varieties and/or classes of wheat. These correction factors and scale for ranking codes can be found in the following tables.

Table 2. Market class, bread loaf volume and cookie diameter correction factors for each 1% protein difference from mean nursery protein for various classes and sub-classes of wheat.

<u>CLASS</u>	<u>LOAF VOLUME</u> cc	<u>COOKIE DIAMETER</u> cm
SWW	60	.110
SWS	60	.110
CLUB	55	.071
HRW	62	.080
HRS	62	.080
HWW	62	.080
HWS	62	.080

Table 3. Computer system variety number (VTN), variety, bread loaf volume, and cookie diameter correction factors of 23 common wheat varieties.

<u>VTN</u>	<u>VARIETY</u>	<u>LOAF VOLUME</u> cc	<u>COOKIE DIAMETER</u> cm
1	Anza	61	0
2	Burt	51	.078
3	Coulee	76	.070
4	Fortuna	64	0
5	Gaines	38	.136
6	Hyslop	0	.137
7	Inia 66	68	0
8	Itana	60	0
9	Kharkof	57	0
10	Luke	0	.085
11	Marfed	61	.098
12	McCall	52	0
13	McDermid	0	.106
14	Moro	0	.094
15	Nugaines	62	.118
16	Omar	0	.083
17	Paha	0	.037
18	Sprague	0	.062
19	Springfield	0	.042
20	Twin	0	.149
21	Yamhill	0	.124
22	Wanser	69	0
23	Wared	62	0

NOTE: Use of tables 2 and 3. If variety name is not found or if the value is zero in Table 3, then the correction factor for class of sample in Table 2 is used.

METHODS

Sample Preparation: All wheat samples are fumigated when received with 850 cc methyl bromide/50 gal. drum overnight and then aerated, cleaned, scoured, and sub-sampled for proximate analysis.

Test Weight (TWT): Determined by AACC Method 84-10 (1).

Buhler Milling: All of the samples of advanced and regional nurseries are milled on a Buhler pneumatic laboratory mill (Fig. 1). The samples are tempered to a predetermined moisture content ranging from 14.0% to 16.0%, depending on the hardness and known flour-bolting properties. The harder wheats require more water. Thus, the grain is conditioned so that the most rapid and complete separation of endosperm can be made. The temper water contains a wetting agent (0.1% Aerosol OT) to hasten moisture penetration. The wheat is allowed to temper for 16-24 hours before milling to permit uniform distribution of the moisture. An additional 0.5% water is added 15-20 minutes prior to milling. The first and second break and first and second reduction streams predict long patent flour yield. All six flour streams are then combined to make a straight-grade white flour by sifting on a 120 stainless steel wire screen and thoroughly blending.

Flour Yield (FYELD): The percent by weight of the total products recovered as straight-grade white flour.

Milling Time: The time required in minutes to mill a 2-kg sample with the Buhler experimental mill and obtain a normal separation of bran, shorts, and flour. Time is dependent on adjustments made by an experienced miller after visually observing the milling properties.

Milling Score (MSCOR): Calculated as follows:

$$\begin{aligned} \text{MSCOR} = & 100 - [(80 - \text{flour yield}) + 50 (\text{flour ash} - .30) \\ & + 0.48 (\text{milling time} - 12.5) + 0.5 (65 - \text{percent long patent}) \\ & + 0.5 (16 - \text{first tempering moisture})] \end{aligned}$$

Modified Quadrumat Milling: The preliminary nurseries (500 g) are experimentally milled on a Quadrumat System as modified by Jeffers and Rubenthaler (11). The procedure is described in the 27th Annual Report, Oct. 1976 (Pgs. 1-14). Conversion of the data to give a predicted Buhler flour yield and milling score are done with the following linear equations:

Predicted Buhler Milling Score

$$\begin{aligned} \text{Soft Wheat } (y) &= -21.60185 + 1.27367 x \\ \text{Hard Wheat } (y) &= -3.43818 + 1.0448 x \\ \text{where, } y &= \text{Predicted Buhler flour yield} \\ \text{and } x &= \text{Original Quadrumat flour yield} \end{aligned}$$

Micro Milling: Grain samples (5-10 g) from single plant selections are tempered to 14% moisture and milled on the micro mill. The micro mill consists of two pairs of corrugated rolls and double sifters with 38- and 135-mesh stainless steel screens. The bran over the 38-mesh screens is evaluated for milling properties by visual examination for the degree of bran clean-up. The throughs of the 135-mesh stainless steel screen, of those samples considered to be good milling types, are examined for flour quality by means of the Modified Micro Sedimentation Method (12). Protein and lysine are determined on these materials by NIR analysis (17). A schematic flow diagram of the micro mill is shown in Fig. 3 (2,13).

Semi-Micro Flour Quality Tests: Wheats milled on the Modified Quadromat mill with unsatisfactory milling properties are discarded. Those that give satisfactory flour yields are evaluated by the following tests: NIR protein, mixograph (3,9), and AWRC test (14,18) to distinguish whether they fit the sub-class of club or soft common and/or hard wheats.

Wheat Moisture (WMIST) & Flour Moisture (FMIST): The reference test uses 2 g of ground wheat in an aluminum moisture dish heated in a forced draft oven for 40 minutes at 140°C, allowed to cool in a desiccator and weighed. Flour moisture is determined in the same manner except that it is heated only 20 minutes (1, Method 44-16). The NIR (Technicon 400) is routinely used as calibrated to the above method.

Wheat Ash and Flour Ash (FASH): The ash from a 4-g sample of wheat meal or flour heated for 15 hours at 550°C in a muffle furnace (1, Method 08-01).

Wheat Protein (WPROT) and Flour Protein (FPROT): The protein content of the samples is determined by the NIR method, and checked (about 10% of the material) by the Kjeldahl method (1, Method 46-12).

Alkaline Water Retention Capacity (AWRC): The percent increase in weight of 7.5 g of flour due to absorption of water from 35 ml of 0.1 normal NaHCO_3 solution after centrifugation (18) (1, Method 56-10 with proportionate increase to 5 g flour).

Viscosity (VISC): Dial reading x 7.5 of a RVT Brookfield Synchro-Lectric Viscometer fitted with a No. 2 spindle at 50 R.P.M. using a suspension of 20 g of flour in 100 ml of water and 7 ml of 1 N lactic acid (15).

Farinograph: The Farinograph is equipped with a 50-g bowl and the Constant Flour Weight procedure (14% moisture basis) is employed (1, Method 54-21A).

Farinograph Absorption (FABS): The amount of water required to center the highest portion of the Farinograph curve on the 500 unit line.

Farinograph Mixing Peak Time (FPEAK): The time interval, in minutes, from the first addition of water until the curve reaches its maximum height.

Farinograph Stability Time (FSTAB): The number of minutes the top of the curve remains above the 500 unit line when the highest portion (peak) is centered on the 500 unit line.

Cookie Baking: The micro method employs 40 g flour at 25% absorption, 60% sugar, 30% emulsified shortening, 3% dry skim milk, 1% NH_4HCO_3 , 1% NaCl, and 1% NaHCO_3 and 0.24% emulsifier (distilled monoglycerides).

Cookie Diameter (CODI): The average diameter, in centimeters, of cookies baked on two separate days.

Bread Baking: An optimum absorption, optimum mixing, optimum bromate, 100 g flour, 90 minute fermentation straight dough method using 1.8% dry yeast, 1-1/2% salt, 6% sugar, 0.3% malt extract, 4% dry milk solids, 40 ppm ascorbic acid, and 3% hydrogenated shortening (5,6,7,10).

Bake Water Absorption (BABS): The amount of water required to make a dough of proper consistency for bread baking when mixed to optimum conditions as judged by an experienced baker using the baking method described above (4).

Mixing Time (MTIME): Time in minutes required to mix the flour and the other bread dough constituents to the optimum condition as judged by an experienced baker (5).

Optimum Bromate: The amount of potassium bromate required to produce the optimum break, shred, crust, and grain characteristics of the loaf of bread (5).

Loaf Volume (LVOL): Volume displacement of canola seeds (cc).

Bread Crumb Grain (BCRGR): Subjective judgement of crumb grain quality as judged by an experienced baker.

Flour Color: The slurry method using 20 g of flour, 25 ml of water, stirred for 2 minutes with a glass stirring rod fitted with a 11 mm policeman, and allowed to stand for 5 minutes. Reading is taken on an Agtron (F_2) calibrated with standard color discs #63 = 0 and #85 = 100.

Japanese Sponge Cake Baking: 100 g flour, 100 g sugar, 100 g fresh egg, 40 g water (16).

Cake Volume (CAVOL): Volume displacement of canola seeds (cc).

Sponge Cake Score (SCSOR): Additive score of texture, volume, external factors and crumb grain (open-ended). The standard flour produces a cake with a score equal to 80.

Udon Noodle Making: 300 g flour, 6.0 g NaCl, 96 g water with dough sheet and noodles prepared with an Otake Laboratory Noodle Machine (16).

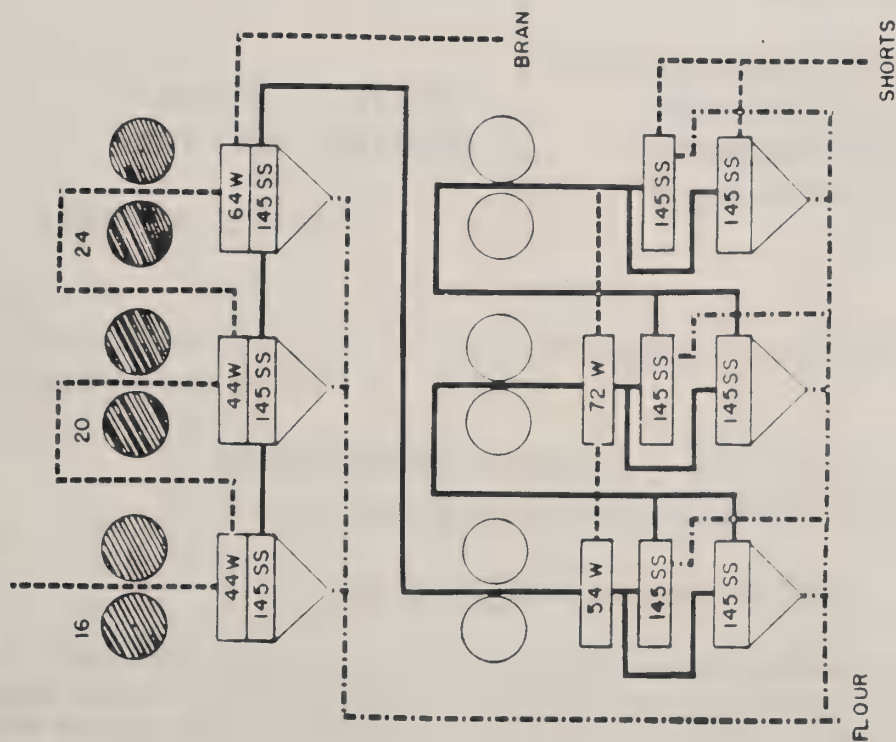
Noodle Score (NOSCO): Additive score incorporating raw and cooked noodle color, yield and texture.

Noodle Weight Increase (WTIN): Percent weight increase of cooked noodle relative to raw noodles.

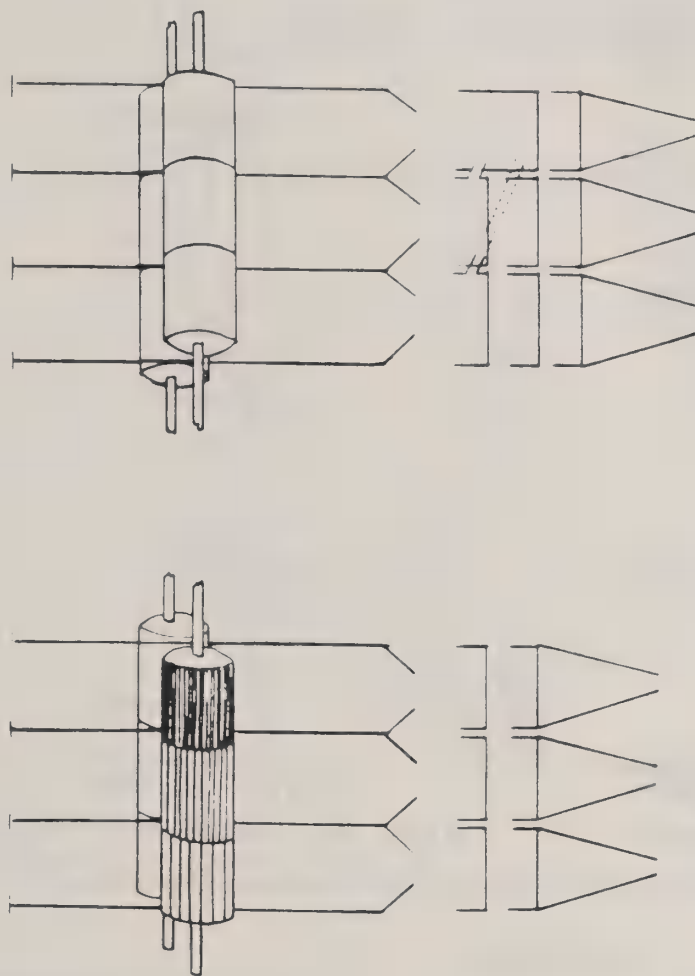
Mixogram: Used to characterize wheats as to market class and estimate mixing and baking properties of flours. The 10-g instrument is used and the testing procedure and interpretation of K.F. Finney (9) is followed. To reduce the time and expense involved in reproducing the mixograms, a reference chart was developed to characterize each curve as to type ranging from very weak to exceptionally long and strong types. The chart and instructions for its use are found on pages 12 and 13.

BUHLER EXPERIMENTAL MILL

Clean Tempered
Wheat



DIAMETER - 6 INCHES
ROLLS: DIFFERENTIAL - 2 TO 1
SURFACE - 300 SQUARE INCHES
BOLTING SURFACE - 288 SQUARE INCHES

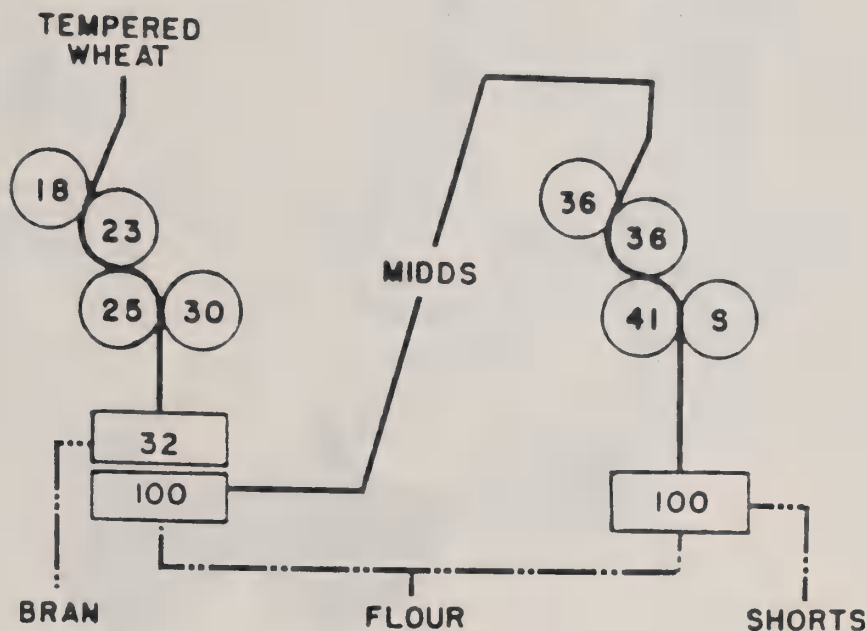


WHEAT TYPE	FEED RATE (G./MIN.)	FLOUR YIELD (%) ^a	FLOUR ASH (%) ^b
WHITE CLUB	145 - 160	73 - 75	0.39 - 0.41
HARD RED WINTER	115 - 130	68 - 73	.35 - .42
COMMON (SOFT) WHITE	90 - 120	67 - 72	.35 - .43

^a BASIS TOTAL PRODUCTS RECOVERED FROM MILL
^b ASH CONTENT OF STRAIGHT-GRADE FLOUR

Figure 1. Schematic flow of the Buhler experimental mill showing a range of the average feed rates, flour yields, and flour ash of the various classes of wheat. Roll settings are varied for optimum clean-up and reduction of the stock, and feed rates according to the bolting and reduction properties.

MODIFIED QUADRUMAT SR. MILLING PROCEDURE



BREAK UNIT

BRABENDER QUADRUMAT JR. WITH
QUADRUMAT SR BREAK ROLLS

REDUCTION UNIT

BRABENDER QUADRUMAT SR.
REDUCTION HEAD

ROLLS:

Diameters: 2.8 inches

Speed:

Fast rolls: 1200 RPM

Slow rolls: 560 RPM

Differential: 2.14 to 1

SIFTERS:

8 and 12 inch Tyler testing sieves
on strand sifter

SIFTING SCHEDULE: Break Stock:

Bran: Removed after 1 min.

Middlings: Removed after an additional
2 min. (3 min. total)

TEMPER:

Soft wheats 13%

Hard wheats 14.5%

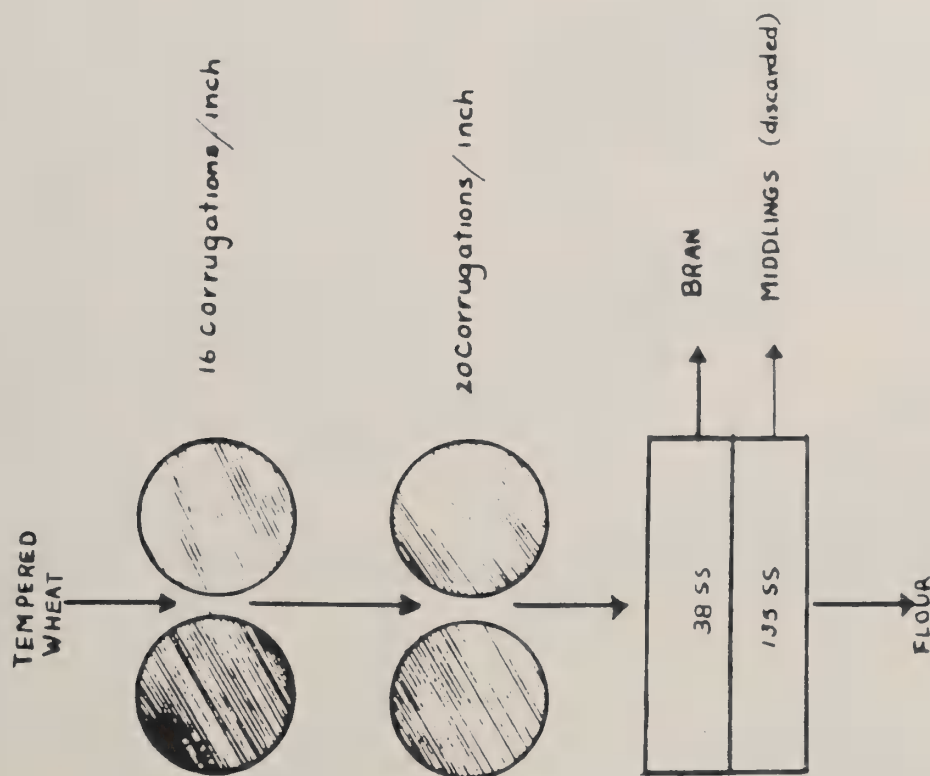
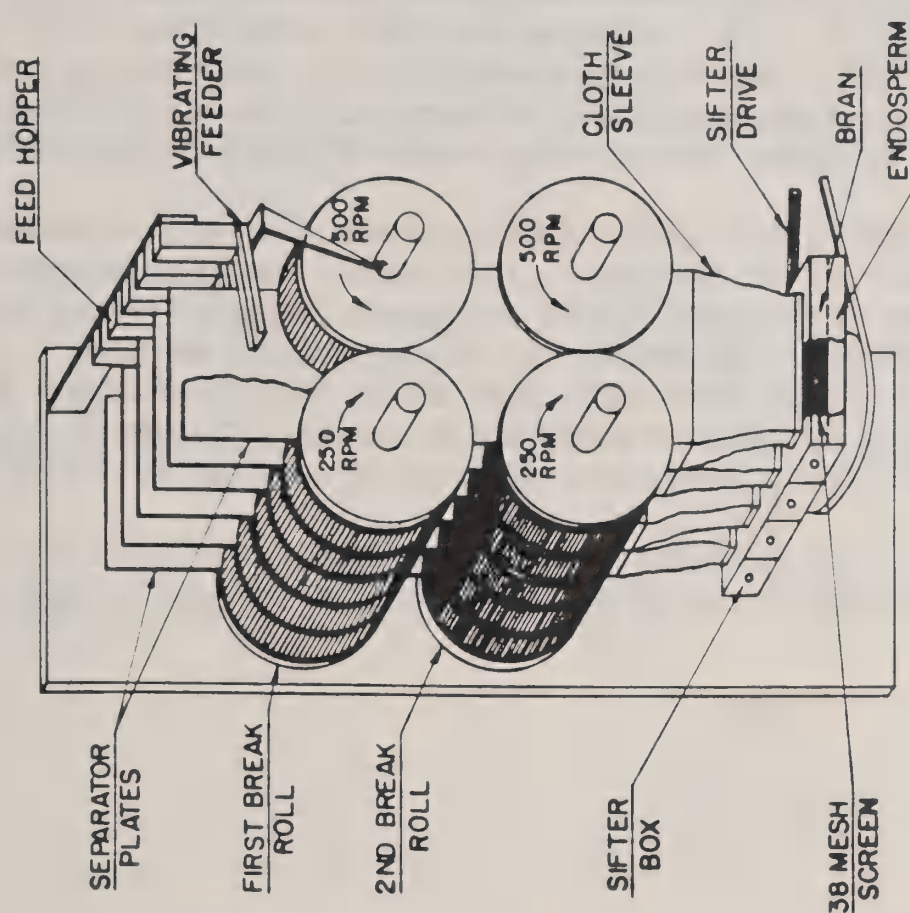
Reduction Stock: 3 min

SAMPLE SIZE: 100-500 grams tempered wheat
(held constant within each comparison group)

OUTPUT: 5-7 samples per hour

Figure 2. Semi-micro experimental mill flow with the roll corrugations per inch. The break rolls have corrugation spirals of 1.25, 1.75, 1.88, and 1.25 inch/ft. in progressive order, and the middling reduction roll spirals are 1.25, 1.25, 1.25, and frosted smooth. Roll spacings for first, second and third break are 0.035, 0.0035, and 0.002 inch respectively. The middling rolls are set at 0.0015, 0.0020 and 0.0015 inch respectively.

MICRO-MILL FLOW



ROLL SPACING 18 .012 INCH
25 .0025 "

Figure 3. Schematic and flow of the micro experimental mill. Four samples are milled and sifted simultaneously and feed rate is held constant by a vibratory feeder.

MIXOGRAM REFERENCE CHART: Mixing time and mixing tolerance, two important baking properties of wheat flour, are determined separately from a mixogram. A mixogram is conducted with 10 g of flour and appropriate amount of water to give optimum absorption. It is really nothing more than a recording mixer reflecting the resistance of the dough while mixing over a period of time. Most mixograms are run either 7 or 8 minutes which is sufficient time for most flours to give a full picture of their mixing time and to show what happens when mixing continues beyond this point (mixing peak) as reflected in the tail of the curve and commonly referred to as tolerance.

Final evaluation must be made with consideration given to the protein content of the flour because of the effect protein content has on the mixing characteristics within the same variety. As protein increases, mixing time will decrease with an apparent increase in tolerance. To illustrate this, compare #1 high (H) with #2 medium (M) and #3 low (L) which are typical mixograms of the club wheat Paha at 12, 9, and 6% protein, respectively. Similarly, 2H, 3M, and 4L are typical for Nugaines at these protein levels. Little change can be observed on any wheat above 13.0 or below 7.5% protein.

This chart will be used to identify the curve characteristics which most closely fit the sample and will be reported as numbers 1L, 1M, 1H, etc. through 8H.

MIXOGRAM REFERENCE CHART

LOW

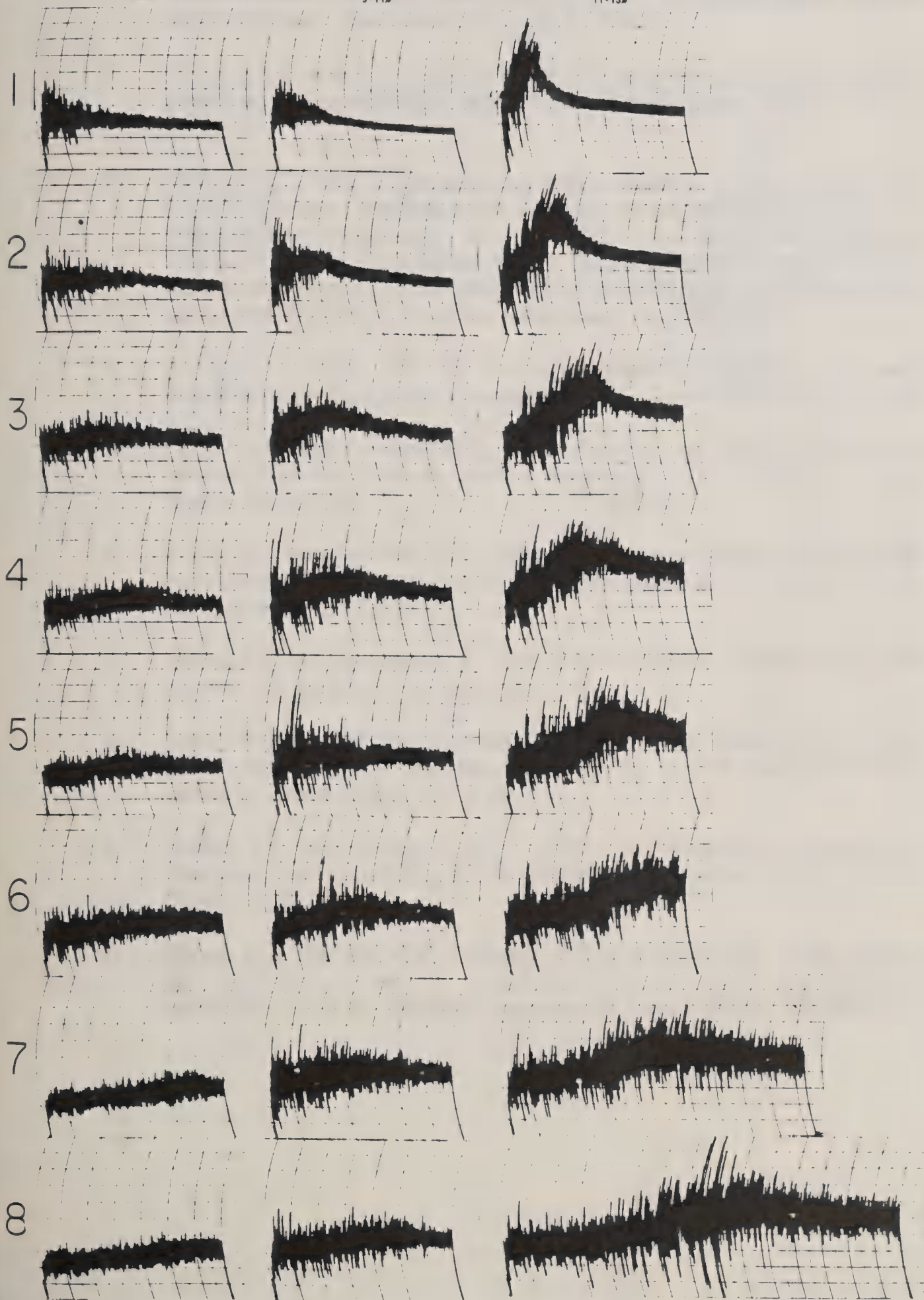
6-9%

MEDIUM

9-11%

HIGH

11-13%



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NURSCO	NURSERY TITLE	LOCATION	BREEDER	# SAMPLES	LAB # START	END	AVERAGE PROTEIN
1	CALIFORNIA COMMON WHEAT TEST	DELTA CO., CA	L.F. JACKSON	41	1	-41	11
2	CALIFORNIA COMMON WHEAT TEST	BUTTE CO., CA	L.F. JACKSON	41	42	-82	11
3	CALIFORNIA COMMON WHEAT TEST	DAVIS, CA	L.F. JACKSON	41	83	-123	11
4	NISSHIN-PNW VARIETY/LOCATION STUDY	ID, OR, WA	.	23	124	-146	9
5	PNWGC CROP QUALITY SURVEY	ID, OR, WA	.	17	147	-163	10
6	CAMAS WHEAT BREEDING QUALITY SAMPLES	BONNERS FERRY, ID	W.K. POPE	8	164	-171	12
7	CAMAS WHEAT BREEDING SAMPLES	BONNERS FERRY, ID	W.K. POPE	20	172	-191	11
8	STATE HARD RED SPRING	CONNELL, WA	C.F. KONZAK	25	192	-216	14
9	ADVANCED HARD RED SPRING	LIND, WA	C.F. KONZAK	29	217	-245	14
10	PRELIMINARY HARD RED SPRING	PULLMAN, WA	C.F. KONZAK	14	246	-259	11
11	PRELIMINARY HARD RED SPRING	PULLMAN, WA	C.F. KONZAK	16	260	-275	11
12	STATE SOFT WHITE SPRING	PULLMAN, WA	C.F. KONZAK	15	276	-290	9
13	ADVANCED SOFT WHITE SPRING	PULLMAN, WA	C.F. KONZAK	26	291	-316	9
14	PRELIMINARY SOFT WHITE SPRING	PULLMAN, WA	C.F. KONZAK	19	317	-335	10
15	PRELIMINARY SOFT WHITE SPRING	PULLMAN, WA	C.F. KONZAK	24	336	-359	9
16	SOFT WHITE WINTER WHEAT	PONEROY, WA	C.J. PETERSON	120	360	-479	11
17	PRELIMINARY HARD WHITE SPRING	PULLMAN, WA	C.F. KONZAK	19	480	-498	10
18	DUAL PURPOSE	PULLMAN, WA	C.F. KONZAK	49	499	-547	10
19	HARD RED WINTER WHEAT	HERMISTON, OR	M.F. KOLDING	7	548	-554	11
20	SOFT WHITE WINTER WHEAT	HERMISTON, OR	M.F. KOLDING	14	555	-568	9
21	KAR MUTANT SELECTIONS	LIND, WA	E. DONALDSON	72	569	-640	11
22	ADVANCED BREAD WHEAT (RED)	SACRAMENTO, CA	C.O. QUALSET	56	641	-696	12
23	ADVANCED PASTRY WHITE CLUB WHEAT	SACRAMENTO, CA	C.O. QUALSET	12	697	-708	11
24	ADVANCED BREAD WHEAT (WHITE)	SACRAMENTO, CA	C.O. QUALSET	12	709	-720	12
25	W-S ISOLINES	DAVIS, CA	C.O. QUALSET	13	721	-733	10
26	W-S ISOLINES	DAVIS, CA	C.O. QUALSET	8	734	-741	12
27	COMMON SPRING WHEAT TRIAL	TULELAKE, CA	C.O. QUALSET	14	742	-755	12
28	COMMON A-B WINTER WHEAT (EARLY PLANT)	TULELAKE, CA	C.O. QUALSET	18	756	-773	12
29	COMMON A-B WINTER WHEAT (2ND PLANT)	TULELAKE, CA	C.O. QUALSET	18	774	-791	12
30	MADRAS FERTILITY TRIAL	MADRAS, OR	S.L. BROICH	28	792	-819	10
31	PENDLETON FERTILITY TRIAL	PENDLETON, OR	S.L. BROICH	11	820	-830	10
32	PRELIMINARY HARD RED SPRING	ROYAL SLOPE, WA	C.F. KONZAK	30	831	-860	11
33	PRELIMINARY HARD RED SPRING	ROYAL SLOPE, WA	C.F. KONZAK	30	861	-890	11
34	IDAH0/CHINESE QUALITY SAMPLES	MOSCOW, ID	C.T. LIU	158	891	-1048	12
35	HARD WHITE WINTER WHEAT	PULLMAN, WA	C.J. PETERSON	57	1049	-1105	9
36	INTERNATIONAL CLUBS	.	.	4	1106	-1109	9
37	TRITICALE QUALITY TEST	PULLMAN, WA	C.J. PETERSON	44	1110	-1153	9
38	PLANT BREEDERS I	CULDESAC, ID	W.L. MCPROUD	40	1154	-1193	11
39	MILLING AND BAKING SAMPLES	.	P.K. ZWER	3	1194	-1196	11
40	ADVANCED CLUB WHEAT	PENDLETON, OR	P.K. ZWER	70	1197	-1266	7

NURSCY TITLE	LOCATION	BREEDER	# SAMPLES	LAB # START END	AVERAGE PROTEIN
41 WINTER VARIETY YIELD TRIAL	LEXINGTON, OR	P. K. ZWER	25	1267 -1291	7
42 WINTER VARIETY YIELD TRIAL	LAGRANDE, OR	P. K. ZWER	25	1292 -1316	8
43 TEST SAMPLE	.	J. SULLIVAN	1	1317 -1317	12
44 WESTERN REGIONAL SOFT WHITE WINTER	OR, WA	.	36	1318 -1353	8
45 WESTERN REGIONAL HARD RED WINTER	ID, OR, WA	.	38	1354 -1391	12
46 WESTERN REGIONAL SPRING	ID, MT, OR	.	39	1392 -1430	11
47 VARIETY X N (8105)	DAVIS, CA	QUALSET/JONES	72	1431 -1502	10
48 VARIETY X N (8106)	DAVIS, CA	QUALSET/JONES	42	1503 -1544	10
49 SPRING WHEAT VARIETIES	DELTA CO., CA	C.O. QUALSET	14	1545 -1558	13
50 ADVANCED SEPTORIA YT (806)	DAVIS, CA	C.O. QUALSET	16	1559 -1574	10
51 PRELIMINARY SEPTORIA YT (824)	DAVIS, CA	C.O. QUALSET	25	1575 -1599	10
52 PRELIMINARY SEPTORIA YT (825)	DAVIS, CA	C.O. QUALSET	34	1600 -1633	10
53 PRELIMINARY SEPTORIA YT (826)	DAVIS, CA	C.O. QUALSET	26	1634 -1659	10
54 HRS ELITE YIELD TRIAL	PENDLETON, OR	W.E. KRONSTAD	19	1660 -1678	12
55 HWS ELITE YIELD TRIAL	PENDLETON, OR	W.E. KRONSTAD	14	1679 -1692	11
56 SWS ELITE YIELD TRIAL	PENDLETON, OR	W.E. KRONSTAD	11	1693 -1703	9
57 HRW ELITE YT	PENDLETON, OR	W.E. KRONSTAD	22	1704 -1725	9
58 SWW ELITE YT	PENDLETON, OR	W.E. KRONSTAD	31	1726 -1756	12
59 HRW CROSSING BLOCK NURSERY	PENDLETON, OR	W.E. KRONSTAD	31	1757 -1787	10
60 HRW REPLICATED ADVANCED NURSERY	PENDLETON, OR	W.E. KRONSTAD	33	1788 -1820	7
61 SWW REPLICATED ADVANCED NURSERY	PENDLETON, OR	W.E. KRONSTAD	37	1821 -1857	6
62 HRS ADVANCED YT	MADRAS, OR	W.E. KRONSTAD	14	1858 -1871	11
63 HRW REPLICATED PRELIMINARY NURSERY	PENDLETON, OR	W.E. KRONSTAD	54	1872 -1925	7
64 HWW REPLICATED PRELIMINARY YT	PENDLETON, OR	W.E. KRONSTAD	38	1926 -1963	9
65 UNCLASSIFIED WHITE WINTER PRELIM YT	CORVALLIS, OR	W.E. KRONSTAD	128	1964 -2091	9
66 HRS PRELIMINARY YT	PENDLETON, OR	W.E. KRONSTAD	47	2092 -2138	11
67 HWS PRELIMINARY YIELD TREAL	PENDLETON, OR	W.E. KRONSTAD	81	2139 -2219	11
68 ARGENTINE SPRING YT	MADRAS, OR	W.E. KRONSTAD	29	2220 -2248	10
69 OSU SEMI-HARD WINTER SELECTIONS	PENDLETON, OR	W.E. KRONSTAD	15	2249 -2263	8
70 HARD SPRING NURSERY	KLAMATH FALLS, OR	W.E. KRONSTAD	11	2264 -2274	13
71 HARD RED WINTER WHEAT QUALITY COUNCIL	KANSAS	.	13	2275 -2287	13
72 COMMON HRS TEST	FARGO, ND	D.D. KASARDA	2	2288 -2289	14
73 USWA X	.	.	55	2290 -2344	9
74 HRS TEST	PULLMAN, WA	C.F. KONZAK	3	2345 -2347	11
75 FIRST LINE SEEDS	MOSES LAKE, WA	J.A. BRITT	6	2348 -2353	10
76 906R WHITE AND WHOLE WHEAT TESTS	PULLMAN, WA	C. HAMILTON	4	2354 -2357	12
77 SWW BAKING TESTS	PULLMAN, WA	R.E. ALLAN	17	2358 -2374	8
78 UNIFINE MILLED WAQUAL STUDY	.	C.F. KONZAK	2	2375 -2376	13
79 AUSTRALIAN LINES	PULLMAN, WA	R.E. ALLAN	12	2377 -2388	10
80 ALLOPLASMIC LINES	PULLMAN, WA	R.E. ALLAN	27	2389 -2415	10

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

NURSCO	NURSERY TITLE	LOCATION	BREEDER	# SAMPLES	LAB # START END	AVERAGE PROTEIN
81	WESTERN PLANT BREEDERS SWS	BOZEMAN, MT	T. PARKS	9	2416 -2424	10
82	PRELIMINARY HRW	LIND, WA	E. DONALDSON	155	2425 -2579	13
83	SPROUTING STUDY	.	.	20	2580 -2599	9
84	HWW REPLICATED PRELIMINARY YT (64 CONT)	PENDLETON, OR	W.E. KRONSTAD	7	2600 -2606	8
85	ADVANCED HRW I	LIND, WA	E. DONALDSON	10	2607 -2616	12
86	ADVANCED HRW II	LIND, WA	E. DONALDSON	10	2617 -2626	12
87	STATE HRW	LIND, WA	E. DONALDSON	11	2627 -2637	12
88	COMMERCIAL VARIETIES	PULLMAN, WA	C.F. KONZAK	5	2638 -2642	10
89	PLANT BREEDERS I (DUAL PURPOSE)	CULDESAC, ID	W.L. MCPROUD	1	2643 -2643	9
90	1987 DIPLOID WHEATS	RIVERSIDE, CA	G. WAINES	6	2644 -2649	17
91	PNW COLLABORATIVE STUDY	ID, OR, WA	.	12	2650 -2661	9
92	080 CONTINUED	PULLMAN, WA	R.E. ALLAN	1	2662 -2662	9
93	USWA XI	.	.	55	2663 -2717	9
94	DRILL STRIPS	PULLMAN, LIND WA	.	58	2718 -2775	12
95	EAST/WEST QUALITY STUDY (PULLMAN MILL)	IN, MI, WA	.	48	2776 -2823	10
96	EAST/WEST QUALITY STUDY (WOOSTER MILL)	IN, MI, WA	.	48	2824 -2871	10
97	HTAP RESISTANT CLUBS	PULLMAN, WA	R.F. LINE	146	2872 -3017	10
98	SWS CLUB	WILBUR, WA	C.F. KONZAK	4	3018 -3021	11
99	USWA XII	.	.	55	3022 -3076	9

NURSCO 1

DELTA CO., CA

L.F. JACKSON

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880001 ANZA		20	HRS	64.6	74.4	0.36	91.5	10.4	59.4	2M
880002 YECORA ROJO		112	HRS	64.6	74.3	0.34	92.3	12.1	64.4	5H
880003 PHOENIX		221	HWS	64.9	73.6	0.34	91.3	11.2	63.5	2H
880004 PROBRED		243	HRS	64.0	73.6	0.35	91.0	11.5	64.0	5H
880005 YOLO		353	HRS	65.0	74.4	0.36	91.3	9.8	61.1	2H
880006 KLASIC		415	HWS	65.0	75.0	0.34	92.8	11.5	65.5	6H
880007 TADINIA		544	HRS	63.7	71.6	0.35	89.1	9.4	65.3	3M
880008 CM16076		5/638	HRS	63.7	75.3	0.39	90.6	10.5	66.9	6H
880009 S8330501		671	HRS	64.2	72.1	0.35	89.6	11.3	62.6	2H
880010 PH982-38		672	HRS	63.7	69.5	0.36	86.2	10.5	67.3	5H
880011 UC683		683	HRS	64.8	69.2	0.36	85.8	9.9	63.6	3M
880012 UC702		6/702	HRS	66.2	73.2	0.31	92.4	12.5	67.2	5H
880013 UC703		703	HRS	65.7	73.0	0.33	91.2	11.9	64.5	2H
880014 PH983-69		716	HRS	63.6	72.9	0.33	91.0	10.4	62.7	2M
880015 BH122		6/733	HRS	63.9	72.9	0.34	90.6	12.1	66.9	5H
880016 NK85S412		6/736	HRS	64.2	72.3	0.35	89.6	10.4	63.6	4M
880017 PH982-163R		745	HRS	64.0	70.6	0.33	88.7	10.4	64.8	3H
880018 CM28339		750	HRS	64.6	68.7	0.32	87.7	10.7	62.6	2H
880019 CARGILL 42450		773	HRS	63.0	70.8	0.34	88.5	10.7	61.7	3M
880020 ESCA 1		6/775	HRS	63.6	73.5	0.33	92.0	12.7	68.8	5H
880021 ESCA 2		6/776	HRS	63.1	71.8	0.38	87.6	12.2	66.2	3H
880022 ESCA 3		777	HRS	64.4	73.1	0.36	89.8	13.5	67.2	3H
880023 ESCA 4		778	HRS	64.6	73.0	0.34	91.1	13.5	66.9	2H
880024 ESCA 5		779	HRS	64.4	72.9	0.33	91.1	13.4	67.3	3H
880025 UC784		784	HRS	63.9	71.4	0.36	88.4	11.1	64.7	4M
880026 UC785		6/785	HRS	64.2	71.4	0.35	88.5	11.0	62.9	4M
880027 UC786		6/786	HRS	62.7	72.6	0.38	88.4	10.6	64.6	6M
880028 DA984-155		787	HRS	63.8	69.3	0.38	84.7	10.3	64.2	6M
880029 DA984-034		6/788	HRS	64.5	73.1	0.33	91.6	13.3	64.7	2H
880030 MARSHALL		789	HRS	62.6	73.4	0.38	89.4	11.5	62.0	4M

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DELTA CO., CA

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LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880001 ANZA		20	HRS	58.5	59.1	1.3	690	727	9	P-MTIME, LVOL, BCRGR
880002 YECORA ROJO		112	HRS	67.2	66.1	4.0	955	887	2	
880003 PHOENIX		221	HWS	63.4	63.2	1.6	905	893	8	P-MTIME, BCRGR
880004 PROBRED		243	HRS	65.2	64.7	3.4	980	949	3	
880005 YOLO		353	HRS	59.6	60.8	1.7	815	889	9	P-MTIME, BCRGR
880006 KLASIC		415	HWS	67.7	67.2	5.3	1000	969	3	
880007 TADINIA		544	HRS	63.9	65.5	1.8	835	934	7	P-MTIME, BCRGR
880008 CM16076		638	HRS	67.1	67.6	7.3	975	1006	2	Long Mixing
880009 S8330501		671	HRS	63.1	62.8	2.0	835	816	6	P-MTIME, LVOL, BCRGR
880010 PH982-38		672	HRS	68.5	69.0	3.3	860	891	5	Q-FYELD, BCRGR
880011 UC683		683	HRS	62.2	63.3	1.6	755	823	9	P-FYELD, MTIME, LVOL, BCRGR
880012 UC702		702	HRS	69.9	68.4	4.5	995	902	3	
880013 UC703		703	HRS	65.1	64.2	1.9	955	899	3	P-MTIME
880014 PH983-69		716	HRS	61.3	61.9	1.3	810	847	8	P-MTIME, BCRGR
880015 BH122		733	HRS	68.7	67.6	4.4	885	817	2	
880016 NK85S412		736	HRS	64.7	65.3	3.2	825	862	4	Q-BCRGR
880017 PH982-163R		745	HRS	65.9	66.5	3.7	885	922	4	Q-FYELD, BCRGR
880018 CM28339		750	HRS	63.0	63.3	2.0	730	749	9	P-FYELD, MTIME, LVOL, BCRGR
880019 CARGILL 42450		773	HRS	62.1	62.4	2.1	825	844	8	P-MTIME, BCRGR
880020 ESCA 1		775	HRS	72.2	70.5	4.2	930	825	4	Q-BCRGR
880021 ESCA 2		776	HRS	69.1	67.9	3.1	950	876	4	Q-BCRGR
880022 ESCA 3		777	HRS	70.4	67.9	2.3	1025	870	4	Q-MTIME, BCRGR
880023 ESCA 4		778	HRS	70.1	67.6	2.2	1020	865	4	Q-MTIME, BCRGR
880024 ESCA 5		779	HRS	69.9	67.5	2.3	1010	861	4	Q-MTIME, BCRGR
880025 UC784		784	HRS	65.5	65.4	2.8	780	774	5	P-LVOL, BCRGR
880026 UC785		785	HRS	63.1	63.1	2.8	835	835	4	Q-BCRGR
880027 UC786		786	HRS	64.9	65.3	3.6	830	855	4	Q-BCRGR
880028 DA984-155		787	HRS	64.2	64.9	3.2	800	843	5	Q-FYELD, BCRGR
880029 DA984-034		788	HRS	67.2	64.9	2.1	1040	897	3	
880030 MARSHALL		789	HRS	62.7	62.2	2.3	855	824	4	Q-MTIME, BCRGR

L.F. JACKSON

DELTA CO., CA

NURSCO 1

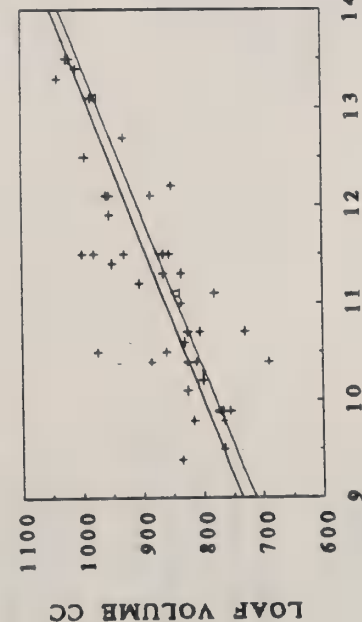
LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880031	LEN	790	HRS	62.0	71.9	0.34	89.9	13.1	68.1	5H
880032	NK84S8148	791	HRS	65.7	73.4	0.31	92.7	11.3	64.7	3H
880033	NK85S318R	<u>6/</u> 792	HRS	64.2	71.7	0.32	90.8	12.1	64.8	3H
880034	NK85S318W	793	HWS	63.2	71.6	0.34	89.4	11.4	62.9	3H
880035	NK85S8961	794	HRS	61.3	71.7	0.34	89.4	9.8	63.7	8M
880036	FMC5086	803	HRS	62.7	70.8	0.36	87.3	10.2	63.1	3M
880037	FMC5144	804	HRS	64.9	73.6	0.35	90.9	9.5	64.2	3M
880038	FMC5742	805	HRS	63.3	71.3	0.30	91.4	11.5	63.7	4H
880039	FMC5745	<u>6/</u> 806	HRS	62.1	75.4	0.37	92.0	10.1	63.6	8M
880040	FMC5758	<u>6/</u> 807	HRS	61.5	72.2	0.37	88.3	11.5	65.0	6H
880041	PEGASUS	808	HRS	59.5	70.1	0.39	85.0	10.7	63.1	3M

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DELTA CO., CA

NURSCO 1

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880031	LEN	790	HRS	71.4	69.3	3.7	985	855	2	
880032	NK84S8148	791	HRS	66.7	66.4	4.2	865	846	5	Q-BCRGR
880033	NK85S318R	792	HRS	67.6	66.5	4.7	960	892	3	
880034	NK85S318W	793	HWS	65.0	64.6	4.1	950	925	5	Q-BCRGR
880035	NK85S8961	794	HRS	63.2	64.4	4.8	765	839	4	Q-BCRGR
880036	FMC5086	803	HRS	62.5	63.3	2.3	800	850	7	P-MTIME, BCRGR
880037	FMC5144	804	HRS	62.4	63.9	1.9	765	850	9	P-MTIME, BCRGR
880038	FMC5742	805	HRS	65.4	64.9	3.1	865	834	4	Q-BCRGR
880039	FMC5745	806	HRS	64.4	65.3	4.2	825	881	4	Q-BCRGR
880040	FMC5758	807	HRS	67.2	66.7	6.2	930	899	3	
880041	PEGASUS	808	HRS	63.5	63.8	2.6	805	824	6	Q-FYELD, BCRGR



COMMENTS: Please note that some of the selections footnoted as promising are marginal for bread grain structure as noted in "Remarks". There are several that have good to excellent overall quality for hard red wheat. The accompanied plot indicates a wide range of quality at any given protein level and also a traditional over-all response of loaf volume to protein (slope of 63.29).

PROTEIN %

+ EXP CROSSES Δ EXPECTED

L.F. JACKSON

BUTTE CO., CA

NURSCO 2

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880042 ANZA		20	HRS	63.7	72.8	0.37	89.3	9.8	59.5	2M
880043 YECORA ROJO		112	HRS	65.0	73.4	0.36	90.1	10.3	63.2	4M
880044 PHOENIX		221	HWW	63.5	73.2	0.36	90.0	9.6	62.1	3M
880045 PROBRED		243	HRS	64.2	72.3	0.38	87.9	12.0	63.8	3H
880046 YOLO		353	HRS	62.5	72.4	0.36	89.0	9.7	60.1	3M
880047 KLASIC		415	HWS	65.5	74.0	0.34	91.7	11.3	63.9	5H
880048 TADINIA		544	HRS	64.4	73.7	0.35	91.3	10.0	62.0	3M
880049 CM16076		5/ 638	HRS	65.0	74.4	0.36	91.3	9.6	62.2	BM
880050 S8330501		671	HRS	64.8	70.3	0.38	85.9	11.3	60.4	3M
880051 PH982-38		672	HRS	64.2	69.1	0.36	85.7	9.7	63.2	4M
880052 UC683		683	HRS	64.1	67.0	0.39	82.2	9.5	61.7	3M
880053 UC702		6/ 702	HRS	65.8	70.7	0.35	88.0	10.6	66.6	5H
880054 UC703		703	HRS	64.7	70.4	0.35	87.8	12.0	63.7	2H
880055 PH983-69		5/ 716	HRS	65.0	71.8	0.37	88.0	12.6	61.9	5H
880056 BH122		733	HRS	61.6	71.1	0.37	87.2	9.9	60.8	3M
880057 NK85S412		736	HRS	64.8	71.9	0.36	88.9	9.9	60.5	4M
880058 PH982-163R		745	HRS	65.1	69.9	0.36	86.8	9.8	61.7	4M
880059 CM28339		750	HRS	64.7	67.8	0.36	84.5	10.0	62.2	3M
880060 CARGILL 42450		773	HRS	57.8	67.2	0.43	80.0	11.9	59.8	4M
880061 ESCA 1		6/ 775	HRS	63.4	71.7	0.35	89.0	11.2	67.3	5H
880062 ESCA 2		6/ 776	HRS	63.3	69.5	0.39	84.7	11.2	65.0	3H
880063 ESCA 3		777	HRS	64.0	70.3	0.44	82.7	11.4	64.1	2H
880064 ESCA 4		778	HRS	64.0	69.9	0.36	86.8	11.4	65.8	2H
880065 ESCA 5		779	HRS	64.1	68.7	0.35	85.7	11.7	63.9	2H
880066 UC784		784	HRS	64.7	69.9	0.37	86.0	9.8	63.2	4M
880067 UC785		785	HRS	64.0	70.7	0.40	85.4	10.8	61.2	4M
880068 UC786		6/ 786	HRS	64.4	71.7	0.37	87.7	9.9	62.8	6M
880069 DA984-155		6/ 787	HRS	64.8	69.3	0.35	86.4	9.7	63.7	4M
880070 DA984-034		788	HRS	64.4	70.8	0.35	87.9	12.2	64.6	2H
880071 MARSHALL		789	HRS	61.9	72.8	0.39	87.8	10.0	61.9	4M

USDA, SEA AIR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

CALIFORNIA COMMON WHEAT TEST

CONTD. PAGE 1

NURSCO 2

BUTTE CO., CA

L.F. JACKSON

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880042 ANZA		20	HRS	58.5	59.7	2.2	750	824	9	P-MTIME, BCRGR
880043 YECORA ROJO		112	HRS	63.7	64.4	2.8	820	863	3	
880044 PHOENIX		221	HWM	60.9	62.3	2.3	790	877	8	P-MTIME, BCRGR
880045 PROBRED		243	HRS	66.5	65.5	3.6	855	793	4	
880046 YOLO		353	HRS	59.0	60.3	2.3	730	811	8	P-MTIME, BCRGR
880047 KLASIC		415	HWS	65.9	65.6	5.2	850	831	3	
880048 TADINIA		544	HRS	60.7	61.7	1.8	800	862	6	P-MTIME, BCRGR
880049 CM16076		638	HRS	62.5	63.9	4.3	950	1037	2	
880050 S8330501		671	HRS	61.4	61.1	2.1	775	756	8	P-MTIME, LVOL, BCRGR
880051 PH982-38		672	HRS	64.6	65.9	3.3	845	926	8	P-FYELD, BCRGR
880052 UC683		683	HRS	60.9	62.4	2.3	715	808	8	P-FYELD, MTIME, LVOL, BCRGR
880053 UC702		702	HRS	67.9	68.3	4.0	915	940	3	Q-FYELD
880054 UC703		703	HRS	66.4	65.4	2.2	900	838	4	Q-FYELD, MTIME, BCRGR
880055 PH983-69		716	HRS	66.2	64.6	3.6	995	896	2	
880056 BH122		733	HRS	61.4	62.5	2.3	840	908	5	Q-MTIME, BCRGR
880057 NK85S412		736	HRS	61.1	62.2	2.8	840	908	6	Q-BCRGR
880058 PH982-163R		745	HRS	62.2	63.4	2.8	865	939	6	Q-BCRGR
880059 CM28339		750	HRS	62.9	63.9	2.4	750	812	8	P-FYELD, MTIME, BCRGR
880060 CARGILL 42450		773	HRS	62.4	61.5	2.8	990	934	3	P-FYELD
880061 ESCA 1		775	HRS	68.2	68.0	3.5	900	888	4	Q-FYELD
880062 ESCA 2		776	HRS	66.9	66.7	3.0	975	963	3	Q-FYELD
880063 ESCA 3		777	HRS	66.2	65.8	2.2	910	885	5	P-MTIME, Q-BCRGR
880064 ESCA 4		778	HRS	67.9	67.5	2.3	945	920	5	Q-FYELD, MTIME, BCRGR
880065 ESCA 5		779	HRS	66.3	65.6	2.2	920	877	5	P-FYELD, MTIME, BCRGR
880066 UC784		784	HRS	63.7	64.9	2.5	805	879	6	Q-FYELD, BCRGR
880067 UC785		785	HRS	62.7	62.9	2.9	820	832	5	Q-BCRGR
880068 UC786		786	HRS	63.4	64.5	3.3	855	923	3	
880069 DA984-155		787	HRS	64.1	65.4	2.9	845	926	4	Q-FYELD
880070 DA984-034		788	HRS	67.5	66.3	2.2	1005	931	5	Q-MTIME, BCRGR
880071 MARSHALL		789	HRS	62.6	63.6	2.5	875	937	2	

L.F. JACKSON

BUTTE CO., CA

NURSCO 2

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880072	LEN	790	HRS	62.4	71.9	0.38	87.4	11.5	65.8	5H
880073	NK84S8148	<u>5/791</u>	HRS	65.2	73.1	0.33	91.5	11.2	63.5	5H
880074	NK85S318R	<u>6/792</u>	HRS	65.0	71.5	0.32	90.1	10.5	62.5	6M
880075	NK85S318W	<u>6/793</u>	HWS	64.5	71.5	0.35	88.7	10.5	62.0	4M
880076	NK85S8961	<u>794</u>	HRS	63.1	71.3	0.34	88.9	9.4	60.1	3M
880077	FMC5086	803	HRS	65.5	71.5	0.38	87.1	9.7	60.2	3M
880078	FMC5144	804	HRS	64.3	72.6	0.38	88.2	8.8	58.6	2M
880079	FMC5742	805	HRS	63.7	70.7	0.33	88.9	10.6	59.6	4M
880080	FMC5745	<u>5/806</u>	HRS	65.2	74.0	0.37	90.1	10.9	60.8	6M
880081	FMC5758	<u>6/807</u>	HRS	64.3	72.8	0.40	87.7	10.8	63.7	8H
880082	PEGASUS	808	HRS	64.3	68.9	0.39	83.8	11.0	61.7	6M

WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

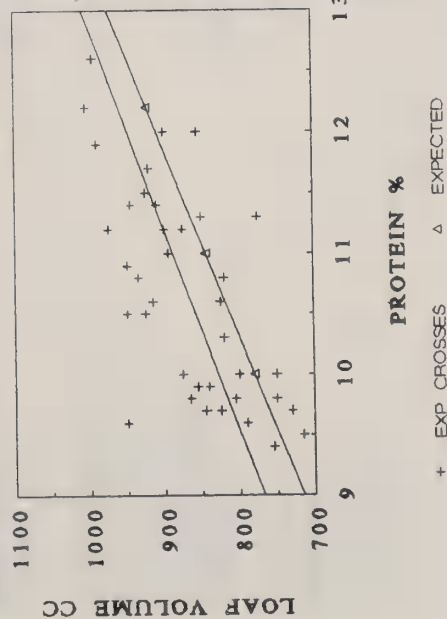
CALIFORNIA COMMON WHEAT TEST

L.F. JACKSON

BUTTE CO., CA

MURSCO 2

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880072	LEN	790	HRS	68.0	67.5	3.7	925	894	2	
880073	NK84S8148	791	HRS	65.4	65.2	4.3	875	863	2	
880074	NK85S318R	792	HRS	63.7	64.2	3.1	925	956	3	
880075	NK85S318W	793	HWS	63.2	63.7	3.0	950	981	5	Q-BCRGR
880076	NK85S8961	794	HRS	60.2	61.8	2.6	755	854	6	Q-MTIME, BCRGR
880077	FMC5086	803	HRS	59.6	60.9	2.3	825	906	6	P-MTIME, BCRGR
880078	FMC5144	804	HRS	57.1	59.3	1.5	700	836	9	P-MTIME, BCRGR
880079	FMC5742	805	HRS	60.9	61.3	2.8	825	850	5	Q-BCRGR
880080	FMC5745	806	HRS	62.4	62.5	3.5	950	956	3	
880081	FMC5758	807	HRS	65.2	65.4	5.7	935	947	4	Q-BCRGR
880082	PEGASUS	808	HRS	63.4	63.4	3.2	895	895	2	P-FYELD



COMMENTS: There is a wide range of quality among these selections as indicated by the accompanying plot of loaf volume vs protein. See "Remarks" for the major deficiencies of those not footnoted as promising. Also, note that a few of those identified as promising have marginal bread crumb structure or other factors.

L.F. JACKSON

DAVIS, CA

NURSCO 3

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880083 ANZA		20	HRS	64.8	75.8	0.45	88.0	9.3	56.3	1M
880084 YECORA ROJO		112	HRS	64.5	72.5	0.46	84.1	11.2	64.6	5H
880085 PHOENIX		221	HWS	63.6	71.3	0.37	87.3	10.2	63.5	3M
880086 PROBRED		243	HRS	63.8	70.7	0.35	88.0	10.4	64.3	6M
880087 YOLO		353	HRS	64.7	72.7	0.34	90.7	9.3	60.5	2M
880088 KLASIC		415	HWS	65.3	73.3	0.33	91.8	10.6	62.9	5H
880089 TADINIA		544	HRS	63.5	70.9	0.33	89.3	9.7	58.8	2M
880090 CM16076		6/ 638	HRS	63.2	72.4	0.34	90.4	10.5	62.0	7M
880091 S8330501		671	HRS	62.9	69.7	0.35	86.8	10.5	58.5	2M
880092 PH982-38		672	HRS	62.6	67.6	0.36	84.4	10.2	62.6	3H
880093 UC683		683	HRS	63.8	66.8	0.38	82.1	9.8	61.9	3M
880094 UC702		702	HRS	63.5	69.3	0.33	87.4	11.7	64.2	5H
880095 UC703		703	HRS	63.4	70.1	0.33	88.6	11.0	62.5	2H
880096 PH983-69		5/ 716	HRS	63.4	71.2	0.41	85.4	11.5	64.0	5H
880097 BH122		733	HRS	61.9	69.3	0.37	85.6	11.0	62.2	3M
880098 NK85S412		736	HRS	62.9	70.1	0.34	87.8	10.4	62.6	4M
880099 PH982-163R		745	HRS	63.0	67.1	0.31	86.1	10.4	62.0	6M
880100 CM28339		750	HRS	63.6	65.4	0.34	83.1	9.2	62.7	3M
880101 CARGILL 42450		773	HRS	62.8	68.2	0.34	85.8	10.2	60.1	4M
880102 ESCA 1		6/ 775	HRS	61.8	70.0	0.34	87.8	11.6	65.4	4H
880103 ESCA 2		6/ 776	HRS	60.9	67.6	0.38	83.2	12.3	64.6	4H
880104 ESCA 3		777	HRS	64.2	69.4	0.35	86.6	11.3	65.0	3H
880105 ESCA 4		778	HRS	62.9	70.0	0.37	86.2	12.2	64.6	3H
880106 ESCA 5		779	HRS	63.3	69.0	0.34	86.9	11.2	66.0	3H
880107 UC784		784	HRS	64.7	68.9	0.33	86.8	10.1	61.6	3M
880108 UC785		785	HRS	63.9	69.0	0.36	85.6	10.5	61.4	8M
880109 UC786		786	HRS	62.8	69.3	0.37	85.6	10.6	63.6	4H
880110 DA984-155		787	HRS	62.1	65.5	0.34	83.1	10.6	62.8	6M
880111 DA984-034		788	HRS	63.3	68.5	0.36	85.4	12.1	62.7	6M
880112 MARSHALL		789	HRS	62.9	71.7	0.38	87.5	12.2	64.5	4H

NURSCO 3

DAVIS, CA

L.F. JACKSON

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880083 ANZA		20	HRS	54.3	56.0	1.4	540	645		9 P-MTIME, LVOL, BCRGR
880084 YECORA ROJO		112	HRS	64.5	64.3	3.3	850	838		4 Q-BCRGR
880085 PHOENIX		221	HWS	63.4	64.2	2.1	810	860		7 P-MTIME, BCRGR
880086 PROBRED		243	HRS	64.4	65.0	3.0	790	827		7 P-BCRGR
880087 YOLO		353	HRS	59.5	61.2	1.9	705	810		9 P-MTIME, BCRGR
880088 KLASIC		415	HWS	64.2	64.6	3.7	810	835		5 Q-BCRGR
880089 TADINIA		544	HRS	58.2	59.5	1.7	660	741		9 P-MTIME, LVOL, BCRGR
880090 CM16076		638	HRS	63.2	63.7	4.1	840	871		4 -Equal to Yecora Rojo
880091 S8330501		671	HRS	58.7	59.2	1.9	655	686		9 P-MTIME, LVOL, BCRGR
880092 PH982-38		672	HRS	63.5	64.3	2.6	845	895		6 P-FYELD, BCRGR
880093 UC683		683	HRS	62.4	63.6	1.9	745	819		8 P-FYELD, MTIME, BCRGR
880094 UC702		702	HRS	66.6	65.9	4.1	855	812		6 Q-BCRGR
880095 UC703		703	HRS	64.2	64.2	2.1	795	795		7 P-MTIME, LVOL, BCRGR
880096 PH983-69		716	HRS	66.2	65.7	3.1	900	869		2
880097 BH122		733	HRS	63.9	63.9	2.1	850	850		8 P-MTIME, BCRGR
880098 NK85S412		736	HRS	63.7	64.3	2.5	800	837		6 Q-MTIME, BCRGR
880099 PH982-163R		745	HRS	63.1	63.7	3.1	845	882		5 P-FYELD, Q-BCRGR
880100 CM28339		750	HRS	62.6	64.4	2.4	620	732		9 P-FYELD, MTIME, LVOL, BCRGR
880101 CARGILL 42450		773	HRS	61.0	61.8	2.5	845	895		5 Q-FYELD, BCRGR
880102 ESCA 1		775	HRS	68.7	68.1	3.1	925	888		2 Q-FYELD
880103 ESCA 2		776	HRS	68.6	67.3	2.8	975	894		2 Q-FYELD
880104 ESCA 3		777	HRS	68.0	67.7	2.5	905	886		4 Q-MTIME, BCRGR, FYELD
880105 ESCA 4		778	HRS	67.5	66.3	2.2	925	851		4 Q-MTIME, BCRGR, FYELD
880106 ESCA 5		779	HRS	67.9	67.7	2.3	975	963		4 Q-MTIME, BCRGR, FYELD
880107 UC784		784	HRS	62.4	63.3	2.4	745	801		8 P-MTIME, BCRGR, FYELD
880108 UC785		785	HRS	63.6	64.1	3.9	795	826		6 Q-FYELD, BCRGR
880109 UC786		786	HRS	65.9	66.3	3.3	810	835		4 Q-FYELD, BCRGR
880110 DA984-155		787	HRS	65.1	65.5	2.7	815	840		6 Q-FYELD, BCRGR
880111 DA984-034		788	HRS	66.0	64.9	1.8	915	847		6 Q-FYELD, BCRGR, MTIME
880112 MARSHALL		789	HRS	66.4	65.2	4.3	890	816		2

L.F. JACKSON

DAVIS, CA

NURSCO 3

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880113 LEN		790	HRS	62.9	70.6	0.38	86.1	12.7	62.4	4H
880114 NK84S8148		<u>5/791</u>	HRS	65.0	72.2	0.33	90.4	11.2	63.7	3H
880115 NK85S318R		<u>6/792</u>	HRS	63.1	68.6	0.31	87.8	10.8	62.8	4M
880116 NK85S318W		<u>6/793</u>	HWS	62.8	68.5	0.33	86.5	11.1	64.6	6M
880117 NK85S8961		<u>6/794</u>	HRS	61.0	69.6	0.34	87.2	10.1	63.1	4M
880118 FMC5086		803	HRS	62.0	67.2	0.36	83.7	10.2	63.0	4M
880119 FMC5144		804	HRS	63.7	72.4	0.32	91.3	9.8	63.0	3M
880120 FMC5742		805	HRS	62.1	68.4	0.34	86.3	10.6	64.4	6M
880121 FMC5745		806	HRS	62.2	71.9	0.36	88.5	10.3	63.2	EM
880122 FMC5758		<u>6/807</u>	HRS	62.8	71.0	0.36	87.6	10.8	65.1	5H
880123 PEGASUS		808	HRS	60.4	67.9	0.40	82.6	10.7	63.8	3M

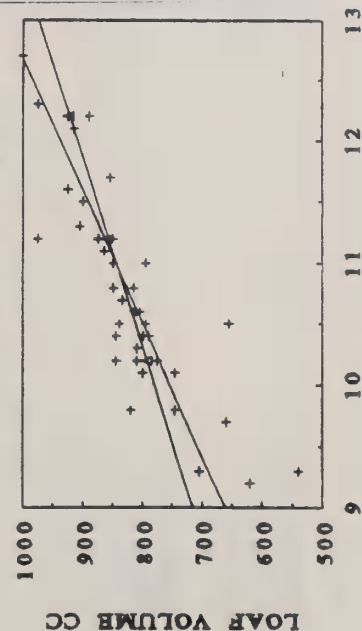
L.F. JACKSON

DAVIS, CA

NURSCO 3

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	BCRGR	RMKS
880113	LEN	790	HRS	66.3	64.6	4.2	1000	895	2
880114	NK84S8148	791	HRS	65.6	65.4	2.9	875	863	2
880115	NK85S318R	792	HRS	64.3	64.5	3.3	815	827	3 Q-FYELD
880116	NK85S318W	793	HRS	66.9	66.8	4.0	865	859	3 Q-FYELD
880117	NK85S8961	794	HRS	63.9	64.8	3.2	800	856	2 Q-FYELD
880118	FNC5086	803	HRS	63.9	64.7	2.2	775	825	6 P-FYELD, MTIME, BCRGR
880119	FNC5144	804	HRS	63.5	64.7	2.3	820	894	6 Q-MTIME, BCRGR
880120	FNC5742	805	HRS	65.7	66.1	3.9	805	830	6 P-FYELD, BCRGR
880121	FNC5745	806	HRS	67.7	68.4	3.9	810	853	5
880122	FNC5758	807	HRS	67.1	67.3	4.8	850	862	4 Equal to Yecora Rojo
880123	PEGASUS	808	HRS	65.2	65.5	2.8	835	854	4 P-FYELD

LOAF VOLUME VS PROTEIN
CALIFORNIA COMMON WHEAT TESTS - DAVIS



COMMENTS: As a group these respond very well to protein content. However, the groups were also atypically low in bread crumb structure from this location (see remarks). Note that a few are footnoted as promising but do have some questionable attributes.

PROTEIN %

+ EXP CROSSES Δ EXPECTED

ID, OR, WA

NURSCO 4

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880124 STEPHENS		S. ID	SWW	59.2	73.8	0.44	80.7	10.4	51.7	2M
880125 DAWS		S. ID	SWW	61.9	68.5	0.43	74.3	8.7	53.3	2M
880126 STEPHENS		CAMAS	SWW	63.0	70.6	0.38	80.0	9.5	53.5	2M
880127 HILL 81		CAMAS	SWW	62.0	72.9	0.40	83.1	9.7	53.7	2M
880128 STEPHENS		PALOUSE	SWW	61.2	70.6	0.40	78.6	9.9	53.7	2M
880129 DAWS		PALOUSE	SWW	61.7	71.2	0.41	80.3	8.8	54.6	3L
880130 HILL 81		PALOUSE	SWW	61.7	73.7	0.40	84.8	9.8	53.8	2M
880131 DAWS		BIG BEND	SWW	62.6	68.6	0.39	77.7	8.6	54.5	3L
880132 HILL 81		BIG BEND	SWW	63.3	72.0	0.38	84.1	8.5	54.5	3L
880133 TRES		BIG BEND	CLUB	63.1	72.2	0.40	83.4	8.7	49.7	1M
880134 CREW		BIG BEND	CLUB	62.6	73.1	0.40	84.5	8.0	51.0	2L
880135 LEWJAIN		BIG BEND	SWW	62.7	71.7	0.38	83.2	8.1	54.3	3L
880136 SPRAGUE		BIG BEND	SWW	64.1	69.5	0.38	78.3	6.9	54.7	2L
880137 STEPHENS		PENDLETON	SWW	59.9	72.1	0.38	83.0	9.3	53.9	3L
880138 DAWS		PENDLETON	SWW	61.0	67.9	0.38	76.3	10.7	54.4	3M
880139 HILL 81		PENDLETON	SWW	62.2	73.2	0.40	84.3	9.7	54.7	2M
880140 STEPHENS		COLUMBIA	SWW	60.6	71.5	0.39	81.7	8.3	54.8	3L
880141 HILL 81		COLUMBIA	SWW	62.7	73.1	0.38	85.0	7.7	54.5	3L
880142 CREW		COLUMBIA	CLUB	60.9	74.0	0.38	87.4	7.9	51.6	2L
880143 STEPHENS		WILLAMETTE	SWW	60.5	71.3	0.41	79.8	7.9	55.3	2L
880144 HILL 81		WILLAMETTE	SWW	62.5	72.9	0.41	83.9	7.1	55.0	2L
880145 HILL 81		BLUE MTN.	SWW	63.3	73.6	0.40	85.7	7.7	55.2	2L
880146 STEPHENS		REFERENCE	SWW	61.8	73.2	0.38	85.9	6.5	55.1	2L

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

NISSHIN-PNW VARIETY/LOCATION STUDY

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ID, OR, WA

NURSCO 4

LABNUM	VARIETY	IDNO	CLASS	COOI	CODIC	CAVOL	SCSOR	VISC	VISCC
880124 STEPHENS		S. ID	SWW	9.01	9.17	1040	54.0	69	52
880125 DAWS		S. ID	SWW	8.89	8.85	1235	71.0	72	78
880126 STEPHENS		CAMAS	SWW	8.70	8.76	1245	77.0	72	64
880127 HILL 81		CAMAS	SWW	8.99	9.06	1260	78.0	82	70
880128 STEPHENS		PALOUSE	SWW	8.80	8.90	1255	74.0	87	72
880129 DAWS		PALOUSE	SWW	8.91	8.89	1365	82.0	86	90
880130 HILL 81		PALOUSE	SWW	8.82	8.91	1340	80.0	86	72
880131 DAWS		BIG BEND	SWW	8.84	8.79	1370	83.0	93	103
880132 HILL 81		BIG BEND	SWW	9.05	8.99	1310	76.0	69	79
880133 TRES		BIG BEND	CLUB	9.26	9.24	1335	82.0	40	43
880134 CREW		BIG BEND	CLUB	9.20	9.13	1395	84.0	43	56
880135 LEWJAIN		BIG BEND	SWW	9.25	9.15	1340	81.0	67	85
880136 SPRAGUE		BIG BEND	SWW	9.32	9.09	1350	82.0	47	97
880137 STEPHENS		PENDLETON	SWW	9.05	9.08	1295	74.0	75	70
880138 DAWS		PENDLETON	SWW	8.59	8.77	1330	77.0	159	113
880139 HILL 81		PENDLETON	SWW	8.86	8.94	1265	74.0	86	74
880140 STEPHENS		COLUMBIA	SWW	9.07	9.00	1320	80.0	53	64
880141 HILL 81		COLUMBIA	SWW	9.06	8.92	1325	80.0	52	76
880142 CREW		COLUMBIA	CLUB	9.23	9.15	1410	81.0	48	66
880143 STEPHENS		WILLAMETTE	SWW	9.05	8.93	1285	76.0	40	54
880144 HILL 81		WILLAMETTE	SWW	9.00	8.79	1340	80.0	36	65
880145 HILL 81		BLUE MTN.	SWW	9.12	8.98	1365	81.0	46	66
880146 STEPHENS		REFERENCE	SWW	9.20	8.93	1380	84.0	36	91

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

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NISSHIN-PNW VARIETY/LOCATION STUDY

ID, OR, WA

NURSCO 4

LABNUM	VARIETY	IDNO	CLASS	Wheat		RMKS
				F.N	DSI	
880124 STEPHENS		S.ID	SWW	362	.085	
880125 DAWES		S.ID	SWW	372	.071	
880126 STEPHENS		CAMAS	SWW	377	.078	
880127 HILL 81		CAMAS	SWW	440	.067	
880128 STEPHENS		PALOUSE	SWW	374	.070	
880129 DAWES		PALOUSE	SWW	456	.072	
880130 HILL 81		PALOUSE	SWW	364	.073	
880131 DAWES		BIG BEND	SWW	347	.230	
880132 HILL 81		BIG BEND	SWW	363	.075	
880133 TRES		BIG BEND	CLUB	435	.070	
880134 CREW		BIG BEND	CLUB	390	.089	
880135 LEWJAIN		BIG BEND	SWW	372	.103	
880136 SPRAGUE		BIG BEND	SWW	388	.074	
880137 STEPHENS		PENDLETON	SWW	384	.072	
880138 DAWES		PENDLETON	SWW	399	.060	
880139 HILL 81		PENDLETON	SWW	374	.072	
880140 STEPHENS		COLUMBIA	SWW	368	.078	
880141 HILL 81		COLUMBIA	SWW	414	.080	
880142 CREW		COLUMBIA	CLUB	358	.095	
880143 STEPHENS		WILLAMETTE	SWW	471	.074	
880144 HILL 81		WILLAMETTE	SWW	395	.088	
880145 HILL 81		BLUE MTN.	SWW	344	.077	
880146 STEPHENS		REFERENCE	SWW	327	.147	

COMMENTS: These samples were analyzed in cooperation with a project of the U.S. Wheat Associates, Inc. and Nisshin Flour Mills, Tokyo, Japan. It is the last year of a 3-year study. Data will be combined with the 86 and 87 year crop and summarized in separate report.

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

PNWGC CROP QUALITY SURVEY

PAGE 1

ID, OR, WA

NURSCO 5

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880147	NORTH IDAHO--REGION 1		SWW	61.2	72.7	0.42	82.8	9.1	57.2	2M
880148	SOUTH IDAHO--REGION 2		SWW	60.3	71.1	0.44	77.4	9.2	54.0	1M
880149	SOUTH IDAHO--REGION 2		HRW	62.1	69.6	0.44	76.4	11.6	61.8	2H
880150	SOUTH IDAHO--REGION 2		HRS	61.0	70.3	0.50	74.8	13.0	61.5	4H
880151	PALOUSE--REGION 3		SWW	61.4	72.7	0.42	80.6	9.7	55.5	2M
880152	BIG BEND--REGION 4		SWW	61.8	71.9	0.41	80.1	8.9	56.4	2M
880153	BIG BEND--REGION 4		CLUB	61.7	74.0	0.41	83.5	9.1	52.6	1M
880154	BIG BEND--REGION 4		HRW	63.6	69.5	0.41	79.6	11.5	63.0	4H
880155	BIG BEND--REGION 4		HRS	62.8	69.3	0.46	77.1	12.7	61.9	4H
880156	WALLA WALLA--REGION 5		SWW	60.0	71.2	0.40	81.8	9.9	55.3	2M
880157	WALLA WALLA--REGION 5		HRS	61.2	69.0	0.40	79.6	13.4	60.7	5H
880158	NORTH PENDLETON--REGION 6		SWW	60.0	72.0	0.40	81.3	9.2	55.9	3L
880159	COLUMBIA RIVER--REGION 7		SWW	60.7	72.1	0.41	82.2	8.1	55.3	3L
880160	COLUMBIA RIVER--REGION 7		CLUB	62.5	73.8	0.41	85.1	6.2	54.5	1L
880161	WILLAMETTE VALLEY--REGION 8		SWW	61.8	72.9	0.43	81.9	7.6	57.0	3L
880162	WATERVILLE--REGION 9		SWW	64.5	69.6	0.40	78.4	8.0	55.3	2L
880163	BLUE MOUNTAIN--REGION 11		SWW	62.6	72.6	0.41	82.1	8.2	56.7	3L

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

PNWGC CROP QUALITY SURVEY

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ID, OR, WA

NURSCO 5

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	LVOL	LVOLC	BCRGR	COOI	COOIC
880147	NORTH IDAHO--REGION 1		SWW						9.12	9.03
880148	SOUTH IDAHO--REGION 2		SWW						9.25	9.16
880149	SOUTH IDAHO--REGION 2		HRW	63.6	62.0	949	850	3	8.31	8.44
880150	SOUTH IDAHO--REGION 2		HRS	65.2	62.2	1058	872	2	8.02	8.26
880151	PALOUSE--REGION 3		SWW						9.01	8.98
880152	BIG BEND--REGION 4		SWW						9.24	9.12
880153	BIG BEND--REGION 4		CLUB						9.24	9.17
880154	BIG BEND--REGION 4		HRW	65.2	63.7	920	827	4	8.19	8.31
880155	BIG BEND--REGION 4		HRS	65.3	62.6	1013	846	2	7.84	8.05
880156	WALLA WALLA--REGION 5		SWW						9.02	9.01
880157	WALLA WALLA--REGION 5		HRS	65.8	62.4	1015	804	2	7.86	8.13
880158	NORTH PENDLETON--REGION 6		SWW						9.14	9.05
880159	COLUMBIA RIVER--REGION 7		SWW						9.09	8.88
880160	COLUMBIA RIVER--REGION 7		CLUB						9.27	9.01
880161	WILLAMETTE VALLEY--REGION 8		SWW						9.12	8.86
880162	WATERVILLE--REGION 9		SWW						9.16	8.94
880163	BLUE MOUNTAIN--REGION 11		SWW						9.35	9.15

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

PNWGC CROP QUALITY SURVEY

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ID, OR, WA

NURSCO 5

LABNUM	VARIETY	IDNO	CLASS	CAVOL	SCSOR	WTIN	NOSCOR	VISC	VISCC	RMKS
880147	NORTH IDAHO--REGION 1		SWW	1315	79.0	324	71			
880148	SOUTH IDAHO--REGION 2		SWW	1285	76.0	327	70			
880149	SOUTH IDAHO--REGION 2		HRW							
880150	SOUTH IDAHO--REGION 2		HRS							
880151	PALOUSE--REGION 3		SWW	1310	79.0	326	70			
880152	BIG BEND--REGION 4		SWW	1320	79.0	328	71			
880153	BIG BEND--REGION 4		CLUB	1335	82.0	343	75			
880154	BIG BEND--REGION 4		HRW							
880155	BIG BEND--REGION 4		HRS							
880156	WALLA WALLA--REGION 5		SWW	1345	82.0	365	75			
880157	WALLA WALLA--REGION 5		HRS							
880158	NORTH PENDLETON--REGION 6		SWW	1355	83.0	340	71			
880159	COLUMBIA RIVER--REGION 7		SWW	1320	79.0	342	73			
880160	COLUMBIA RIVER--REGION 7		CLUB	1355	83.0	336	77			
880161	WILLAMETTE VALLEY--REGION 8		SWW	1270	76.0	331	73			
880162	WATERVILLE--REGION 9		SWW	1360	83.0	347	74			
880163	BLUE MOUNTAIN--REGION 11		SWW	1335	81.0	335	74			

COMMENTS: These samples were evaluated in cooperation with the Pacific Northwest Grains Council. They are composites of weekly samples collected from farm trucks at country elevators during the harvest periods. Data was sent to U. S. Wheat Associates for a Crop Report brochure. Bake results for cookies and cakes are above average. The protein content is up slightly.

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

CAMAS WHEAT BREEDING QUALITY SAMPLES

W.K. POPE

BONNERS FERRY, ID

NURSCO 6

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880164 WESTON		15-1	HRW	65.2	77.2	0.36	94.0	11.8	64.9	2H
880165 WESTON/LOUVRIN-24 SEL-3		13-1	HRW	64.4	71.2	0.37	87.6	11.8	64.3	3H
880166 WESTON/LOUVRIN-24 SEL-1		12-15	HRW	63.6	72.7	0.38	88.7	11.6	61.2	2H
880167 WESTON/LOUVRIN-24 SEL-2		5/11-12	HRW	64.0	74.5	0.37	90.8	11.4	63.7	4M
880168 BF6-9 INC9		16-10+13	HRW	62.0	75.0	0.32	93.7	11.3	63.9	2H
880169 INC9 BULK			HRW	60.4	70.6	0.32	89.3	12.8	60.4	2H
880170 WESTON/LOUVRIN-24		L-6-10	SRW	63.6	66.8	0.36	83.1	10.5	62.5	2M
880171 WESTON CHECK		L-201-8	HRW	63.6	73.3	0.32	92.1	13.6	65.6	3H

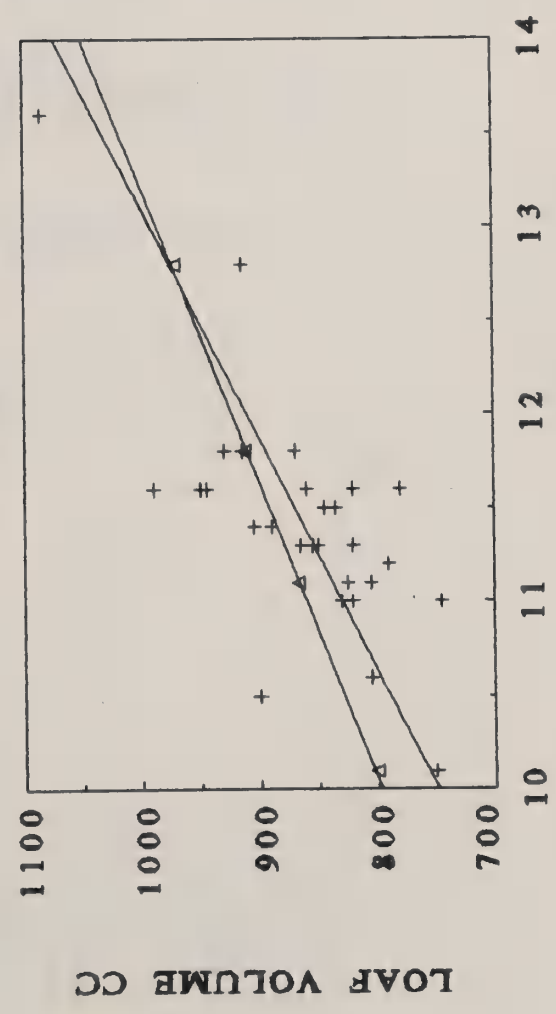
W.K. POPE

BONNERS FERRY, ID

NURSCO 6

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LCVLC	BCRGR	RMKS
880164	WESTON	15-1	HRW	64.4	64.6	1.5	915	927		3 Short M.Time
880165	WESTON/LOUVRIN-24 SEL-3	13-1	HRW	63.8	64.0	2.0	930	942		6 Q-MTIME, BCRGR
880166	WESTON/LOUVRIN-24 SEL-1	12-15	HRW	64.5	64.9	1.8	780	805		8 P-MTIME, LVOL, BCRGR
880167	WESTON/LOUVRIN-24 SEL-2	11-12	HRW	64.3	64.9	2.7	890	927		2
880168	BF6-9 INC9	16-10+13	HRW	62.9	63.6	1.7	865	908		6 P-MTIME, BCRGR
880169	INC9 BULK		HRW	61.9	61.1	2.1	915	865		7 P-MTIME, BCRGR
880170	WESTON/LOUVRIN-24	L-6-10	SRW	60.7	62.2	1.5	900	993		6 P-MTIME, BCRGR
880171	WESTON CHECK	L-201-8	HRW	68.4	66.8	2.5	1085	986		2

LOAF VOLUME VS PROTEIN
CAMAS WHEAT BREEDING QUALITY SAMPLES



COMMENTS: These selections, along with those in NURSCO 7, are characterized by short and weak dough mixing properties which is associated with the coarse and heavy bread crumb structure. Selection 11-12 has very good overall quality. Selection 13-1, which is not footnoted as promising because of questionable mixing time and bread crumb grain is the next best for overall quality. The accompanied plot of loaf volume vs protein indicates a wide range of quality at any protein level.

PROTEIN %
+ EXP CROSSES Δ EXPECTED

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

CAMAS WHEAT BREEDING SAMPLES

W.K. POPE

BONNERS FERRY, ID

NURSCO 7

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC
880172	19/(ID2-159-5006)/ARK	14-7	HRW	62.6	74.2	0.40	88.9	11.5	62.8
880173	INC8	6-14+15	SRW	63.1	68.4	0.39	83.3	11.2	55.7
880174	INC8	6-16	HRW	63.6	73.7	0.35	91.0	11.5	63.9
880175	19/(A-5006)	6/ 5-3	SRW	63.6	70.9	0.30	92.1	10.1	56.4
880176	ALCEDO	4-15	HRW	63.1	73.6	0.35	90.9	11.0	60.9
880177	[()ARK/SHEN-3PARENTS]	4-12	SRW	62.8	65.3	0.37	80.7	11.4	60.5
880178	JOEL/INCV	4-8	HRW	63.3	70.8	0.31	90.1	11.1	64.5
880179	VAR30	1-9	HRW	64.4	73.9	0.40	88.7	10.6	63.3
880180	INC9-3		HRW	60.2	73.2	0.32	91.9	11.0	64.4
880181	INC9-4		HRW	63.1	75.0	0.36	91.8	11.3	61.5
880182	FENN	L-1-3	HRW	58.8	71.3	0.36	88.2	11.3	61.9
880183	FENN	6/ L-1-4	HRW	59.7	69.6	0.31	89.1	11.0	62.8
880184	FENN	L-1-1	SRW	58.0	72.9	0.40	88.7	11.6	62.3
880185	FENN	L-1-2	HRW	58.5	61.6	0.31	80.5	11.1	63.2
880186	30-ARK/COMPLEX	L-16-1	HRW	56.3	72.0	0.42	85.7	11.8	61.7
880187	30-ARK/COMPLEX	L-16-2	SRW	57.4	72.0	0.39	87.8	11.6	62.5
880188	FENN	L-34-4	SRW	61.4	64.7	0.33	82.3	11.6	63.8
880189	12/18 HILL	6/ L-201-1	HRW	62.8	69.0	0.34	86.5	11.6	56.3
880190	12/18 HILL	L-201-8	HRW	60.4	65.3	0.35	82.3	11.3	61.1
880191	INC8		SRW	56.3	62.9	0.37	77.7	11.6	60.0

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

CAMAS WHEAT BREEDING SAMPLES

W.K. POPE

BONNERS FERRY, ID

NURSCO 7

LABNUM	VARIETY	IDNO	CLASS	MTYPE	BABS	BABSC	LVOL	LVOLC	BCRGR
880172	19/(ID2-159-5006)/ARK	14-7	HRW	2H	64.5	64.0	845	814	7
880173	INC8	6-14+15	SRW	2M	56.1	55.9	790	778	8
880174	INC8	6-16	HRW	2H	64.6	64.1	835	804	7
880175	19/(A-5006)	5-3	SRW	3M	56.2	57.1	750	804	8
880176	ALCEDO	4-15	HRW	4M	62.6	62.6	745	745	4
880177	[(C)/ARK/SHEM-3PARENTS]	4-12	SRW	3H	62.1	61.7	905	881	4
880178	JOEL/INCV	4-8	HRW	2M	64.8	64.7	825	819	6
880179	VAR30	1-9	HRW	4M	63.1	63.5	805	830	6
880180	INC9-3		HRW	2H	65.1	65.1	830	830	5
880181	INC9-4		HRW	1H	62.5	62.2	820	801	6
880182	FENN	L-1-3	HRW	1H	62.4	62.1	850	831	6
880183	FENN	L-1-4	HRW	3M	62.0	62.0	820	820	4
880184	FENN	L-1-1	SRW	4M	63.6	63.0	860	824	5
880185	FENN	L-1-2	HRW	3M	63.5	63.4	805	799	5
880186	30-ARK/COMPLEX	L-16-1	HRW	2H	62.2	61.4	870	820	6
880187	30-ARK/COMPLEX	L-16-2	SRW	3H	64.3	63.7	945	909	4
880188	FENN	L-34-4	SRW	4M	64.6	64.0	950	914	4
880189	12/18 HILL	L-201-1	HRW	3M	59.1	58.5	820	783	4
880190	12/18 HILL	L-201-8	HRW	2M	60.6	60.3	855	836	7
880191	INC8		SRW	3M	60.8	60.2	990	954	3

NURSCO 7

BONNERS FERRY, ID

W.K. POPE

LABNUM	VARIETY	IDNO	CLASS	COOI	CODIC	RMKS
880172	19/(1D2-159-5006)/ARK	14-7	HRW	8.51	8.55	-G-FYELD, P-Mix, BCRGR
880173	INC8	6-14+15	SRW	9.25	9.27	-P-FYELD, G-CODI, "Red"
880174	INC8	6-16	HRW	8.51	8.55	-G-FYELD, P-Mix, BCRGR
880175	19/(A-5006)	5-3	SRW	9.25	9.15	-Soft Red"
880176	ALCEDO	4-15	HRW	8.87	8.87	-P-LVOL, Q-BCRGR
880177	[()]/ARK/SHEM-3PARENTS]	4-12	SRW	8.94	8.98	-P-FYELD
880178	JOEL/INCV	4-8	HRW	9.07	9.08	-P-MixTime, BCRGR
880179	VAR30	1-9	HRW	8.55	8.52	-P-BCRGR
880180	INC9-3		HRW	8.68	8.68	-P-MTIME, BCRGR
880181	INC9-4		HRW	8.61	8.64	-P-MTIME, BCRGR
880182	FENN	L-1-3	HRW	8.65	8.67	-P-MTIME, BCRGR
880183	FENN	L-1-4	HRW	8.77	8.77	-Q-BCRGR
880184	FENN	L-1-1	SRW	8.48	8.54	-Q-BCRGR
880185	FENN	L-1-2	HRW	8.64	8.65	-P-FYELD, LVOL, BCRGR
880186	30-ARK/COMPLEX	L-16-1	HRW	8.51	8.58	-Q-MTIME, BCRGR
880187	30-ARK/COMPLEX	L-16-2	SRW	8.64	8.70	-Q-"Soft"
880188	FENN	L-34-4	SRW	8.82	8.89	-P-FYELD
880189	12/18 HILL	L-201-1	HRW	9.37	9.42	- "Dual Purpose"
880190	12/18 HILL	L-201-8	HRW	9.01	9.04	-P-FYELD, BCRGR
880191	INC8		SRW	8.81	8.88	-VP-FYELD, Good Bread

COMMENTS: Many of these selections have short mixing times and associated poor bread crumb structure. Selections 5-3 (soft red) and L-1-4 appear a bit better than the others. Selection L-201-1 has some "dual purpose" properties. See remarks for major deficiencies. Please refer to NURSCO 6 for check varieties and a plot of loaf volume vs protein of these samples (a few are above expected level, but many are significantly poorer).

C.F. KONZAK

CONNELL, WA

NURSCO 8

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880192 MCKAY		CI017903	HRS	62.6	71.7	0.39	85.9	13.6	67.0	4H
880193 NORDIC		HS820175	HRS	63.6	71.7	0.38	84.7	14.6	67.6	4H
880194 BUTTE/SD2700		SD2961	HRS	62.0	70.3	0.37	83.9	14.9	68.5	5H
880195 WPB906R		WPB906R	HRS	61.8	67.3	0.41	75.8	15.3	69.0	3H
880196 SPILLMAN		WA7075	HRS	61.5	69.9	0.41	80.5	15.1	68.4	2H
880197 NDM0004/NK0751		WA7493	HRS	61.9	70.8	0.40	83.1	14.4	67.6	3H
880198 NDM0004/NK0751		WA7494	HRS	61.5	72.1	0.40	84.7	14.6	67.2	3H
880199 K78560-4 BORAH/WA6389		6/K830048	HRS	61.7	74.7	0.39	89.1	13.5	68.2	6H
880200 NK0751/NDM0011		WA7629	HRS	61.8	73.1	0.42	85.0	13.9	67.5	3H
880201 NK0751/NDM0011		KNC0043	HRS	62.2	71.9	0.41	84.0	14.3	66.6	3H
880202 K78550-2 PROSPUR/WA6389		6/K830022	HRS	62.7	71.2	0.39	83.5	13.4	68.8	5H
880203 NK0751/NDM0011		KNC0043	HRS	62.1	71.4	0.42	83.1	14.5	66.7	3H
880204 NDM0011/NK0751		KNC0042	HRS	61.9	69.9	0.43	82.8	14.8	66.4	3H
880205 NK0751/NDM0011		6/KNC0043	HRS	61.9	72.2	0.41	84.8	14.5	66.7	3H
880206 K80401 K9575/K79567		K850181	HRS	62.3	68.7	0.38	80.0	13.0	68.2	2H
880207 K80401 K79575/K9567		K850184	HRS	62.0	68.4	0.42	74.8	13.7	67.2	2H
880208 K80437 UT881292/1D167		6/K850220	HRS	61.8	72.8	0.38	86.8	12.7	69.2	5H
880209 K81715 WPB903/1D167		5/K850384	HRS	63.5	73.9	0.37	87.7	12.8	68.0	4H
880210 K81752 K75272-41-6/WA6307		5/K850392	HRS	60.5	73.6	0.39	87.7	12.0	68.7	6H
880211 K81829 K80296/NK761011		6/K850405	HRS	61.7	73.0	0.42	85.5	13.5	67.7	2H
880212 K81829 K80296/NK761011		6/K850409	HRS	61.6	72.6	0.41	84.7	13.7	68.6	2H
880213 NDM0011/ALONDRA		5/KNC0014	HRS	62.0	72.0	0.37	87.0	13.4	67.9	3H
880214 NDM0007/NK0751		5/KNC0034	HRS	61.8	72.6	0.41	85.8	14.2	68.0	3H
880215 NDM0011/NK0751		5/KNC0042	HRS	62.3	71.9	0.41	84.8	14.2	67.7	2H
880216 NDM0003/WA6307		KNC0047	HRS	62.1	71.4	0.37	85.6	14.1	68.0	2H

NURSCO 8

CONNELL, WA

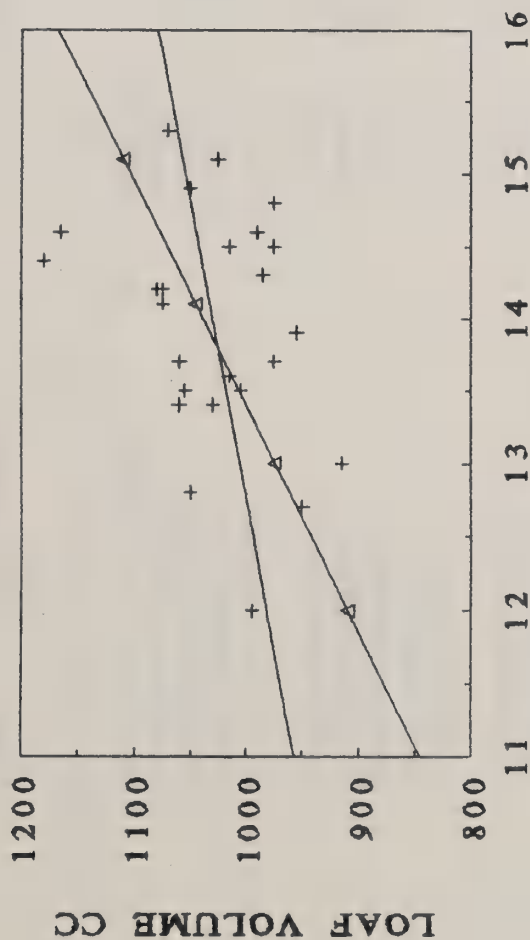
C.F. KONZAK

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880192 MCKAY		C1017903	HRS	67.3	67.7	4.0	1015	1040	2	
880193 NORDIC		HS820175	HRS	68.9	68.3	3.2	1165	1128	2	
880194 BUTTE/SD2700		SD2961	HRS	70.1	69.2	5.5	1050	994	2	Q-FYELD, LVOL
880195 WPB906R		WPB906R	HRS	70.5	69.2	3.7	1070	989	2	P-FYELD, Q-LVOL
880196 SPILLMAN		WA7075	HRS	69.2	68.1	2.1	1025	957	2	Q-FYELD, LVOL, MT
880197 NDM0004/NK0751		WA7493	HRS	67.2	66.8	3.0	1180	1155		5-Q-FYELD, BCRGR
880198 NDM0004/NK0751		WA7494	HRS	67.5	66.9	3.1	990	953		3-Q-LVOL
880199 K78560-4 BORAH/WA6389		K830048	HRS	67.4	67.9	8.1	1005	1036		2-Long M.Time
880200 NK0751/NDM0011		WA7629	HRS	67.1	67.2	3.3	955	961		3-Q-LVOL
880201 NK0751/NDM0011		KNC0043	HRS	66.6	66.3	3.1	985	966		2-Q-LVOL
880202 K78550-2 PROSPUR/WA6389		K830022	HRS	67.9	68.5	6.3	1060	1097	2	
880203 NK0751/NDM0011		KNC0043	HRS	66.4	65.9	3.2	975	944	3	Q-LVOL
880204 NDM0011/NK0751		KNC0042	HRS	66.4	65.6	2.6	975	925	3	Q-FYELD, LVOL
880205 NK0751/NDM0011		KNC0043	HRS	66.4	65.9	2.8	1015	984	2	Q-LVOL
880206 K80401 K9575/K79567		K850181	HRS	67.4	68.4	2.4	915	977	6	P-FYELD, LVOL, BCRGR
880207 K80401 K79575/K9567		K850184	HRS	67.1	67.4	2.4	975	994	4	P-FYELD, LVOL, BCRGR
880208 K80437 UT881292/ID167		K850220	HRS	68.1	69.4	5.7	950	1031	2	
880209 K81715 WPB903/ID167		K850384	HRS	67.5	68.7	4.3	1050	1124	3	
880210 K81752 K75272-41-6/WA6307		K850392	HRS	67.4	69.4	8.5	995	1119	2	
880211 K81829 K80296/NK761011		K850405	HRS	67.4	67.9	2.5	1055	1086	4	Q-BCRGR
880212 K81829 K80296/NK761011		K850409	HRS	68.5	68.8	2.3	1060	1079	4	Q-BCRGR
880213 NDM0011/ALONDRA		KNC0014	HRS	67.5	68.1	3.2	1030	1067	2	
880214 NDM0007/NK0751		KNC0034	HRS	68.4	68.2	4.2	1075	1063	2	
880215 NDM0011/NK0751		KNC0042	HRS	67.6	67.4	2.6	1080	1068	2	
880216 NDM0003/WA6307		KNC0047	HRS	67.8	67.7	2.2	1075	1069	4	Q-MTIME, BCRGR

COMMENTS: The protein content of this nursery was excellent for meaningful baking evaluations. Several of these selections did not perform as well as expected for their protein level (See Plot on page 2). Others, footnoted, have good overall prospects. See "Remarks" for major deficiencies.

NURSCO 8

LOAF VOLUME VS PROTEIN STATE HARD RED SPRING



PROTEIN %

+ EXP CROSSES Δ EXPECTED

Statistics
Size 25
Total 25725
Mean 1029
Maximum 1180
Minimum 915
Standard Dev. 62.031578
Standard Error 12.406316
95% Confidence 24.316379
99% Confidence 32.008294
a0 688.699815
a1 24.397776
a2 0
a3 0
a4 0
a5 0
a6 0
Rval 0.316512

Graph A 25
4041
1010.25
1110
910
86.642465
43.321232
84.909615
111.768779
136.012015
64.519409
0
0
0
0
0
0
0.999994

Graph B 4

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

ADVANCED HARD RED SPRING

NURSCO 9

LIND, WA

C.F. KONZAK

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880217	MAGNIF 41 MUT/WA6307	6/K850429	HRS	62.1	73.6	0.46	85.6	13.5	67.7	6H
880218	MAGNIF 41/WA6307	K850437	HRS	61.0	71.3	0.44	81.5	15.0	69.2	3H
880219	NZG6101-6/ID167	6/K850442	HRS	62.9	73.2	0.41	85.3	13.9	68.0	4H
880220	NZG6101-6/ID167	5/K850445	HRS	62.5	73.0	0.38	87.1	13.5	68.3	4H
880221	K7905779/K750399	5/K860005	HRS	63.1	72.5	0.35	89.0	13.7	68.6	6H
880222	K80058/K795530	5/K860028	HRS	61.1	71.8	0.39	86.2	14.7	69.4	5H
880223	K80003/WA6711	5/K860042	HRS	62.6	74.1	0.40	88.5	14.2	69.5	6H
880224	K80003/WA6711	K860046	HRS	62.5	74.3	0.39	89.1	14.4	69.6	3H
880225	K80003/WA6711	6/K860047	HRS	62.9	70.8	0.40	82.7	14.4	68.2	3H
880226	K80296/ID167	K860060	HRS	61.5	71.5	0.39	84.4	13.1	68.6	3H
880227	K80296/NK761011	5/K860069	HRS	62.1	73.5	0.41	86.3	14.0	68.9	3H
880228	K80296/NK761011	K860076	HRS	62.3	71.6	0.39	84.6	14.2	73.9	6H
880229	K80296/NK761011	6/K860078	HRS	62.1	72.8	0.40	85.9	14.1	70.8	4H
880230	K80296/NK761011	5/K860085	HRS	61.5	72.2	0.42	83.5	13.6	71.2	3H
880231	K80343/WA6307	5/K860098	HRS	60.6	73.8	0.43	86.2	14.1	68.7	3H
880232	K80343/WA6307	5/K860099	HRS	61.3	72.6	0.42	86.5	14.0	69.4	3H
880233	K80343/WA6307	6/K860100	HRS	61.1	73.4	0.42	86.4	13.9	69.4	3H
880234	K80343/WA6307	6/K860101	HRS	61.2	73.0	0.43	84.6	14.0	69.6	3H
880235	C1017903/MEX22A-5074M	6/K860130	HRS	62.0	71.7	0.42	83.6	13.8	71.0	5H
880236	K790821/WPB906	5/K860134	HRS	60.5	72.2	0.37	86.8	14.1	71.9	4H
880237	K790821/WPB906	6/K860136	HRS	61.5	71.0	0.35	86.3	13.8	70.0	5H
880238	NK0751/PC0671	K860161	HRS	62.7	69.5	0.39	81.5	13.7	71.3	2H
880239	ND585/SD8026	SD8052	HRS	62.3	71.9	0.41	83.0	14.9	70.8	3H
880240	MT7336/SHORTANA	MT8446	HRS	62.4	68.6	0.40	79.3	15.8	71.8	5H
880241	SU28-1*2/3/LEW//T10GA*2/RL6043	ND0606	HRS	62.2	68.5	0.38	80.5	15.6	71.7	4H
880242	LEN//BUTTE*2/ND507/3/ND593	ND0626	HRS	63.2	70.7	0.39	83.8	15.8	71.1	4H
880243	SPILLMAN	WA7075	HRS	62.0	72.0	0.40	83.5	15.1	69.9	2H
880244	WPB906R	WPB906	HRS	62.0	69.1	0.40	79.2	15.5	70.3	5H
880245	MCKAY	C1017903	HRS	62.9	72.3	0.36	88.2	14.1	70.3	6H

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

ADVANCED HARD RED SPRING

CONTD. PAGE 1

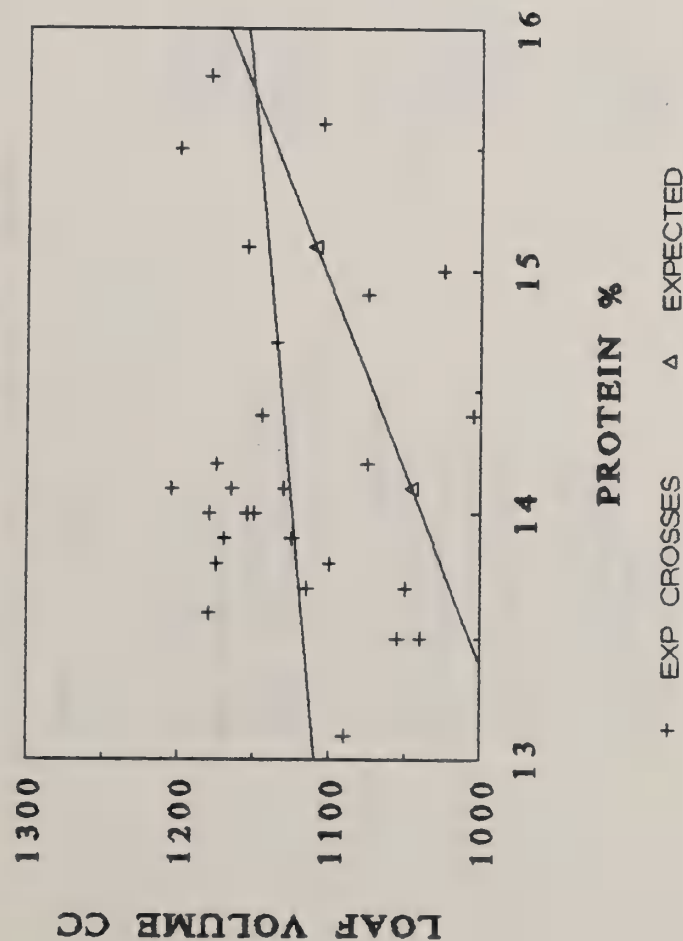
NURSCO 9

LIND, WA

C.F. KONZAK

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880217	MAGNIF 41 MUT/WA6307	K850429	HRS	66.9	67.4	5.9	1040	1071	3	3
880218	MAGNIF 41/WA6307	K850437	HRS	70.4	69.4	3.5	1025	963	4-P-LVOL, Q-BCRGR	
880219	NZG6101-6/ID167	K850442	HRS	68.1	68.2	4.6	1125	1131	3	3
880220	NZG6101-6/ID167	K850445	HRS	68.0	68.5	3.9	1055	1086	2	2
880221	K7905779/K750399	K860005	HRS	68.5	68.8	6.6	1050	1069	2	2
880222	K80058/K795530	K860028	HRS	70.3	69.6	4.6	1135	1092	1	1
880223	K80003/WA6711	K860042	HRS	70.9	70.7	5.4	1075	1063	2	2
880224	K80003/WA6711	K860046	HRS	69.7	69.3	3.5	1005	980	2-P-LVOL	
880225	K80003/WA6711	K860047	HRS	69.3	68.9	3.3	1145	1120	2-Q-FYELD	
880226	K80296/ID167	K860060	HRS	68.4	69.3	3.3	1090	1146	4-Q-BCRGR	
880227	K80296/NK761011	K860069	HRS	69.6	69.6	3.1	1180	1180	2	2
880228	K80296/NK761011	K860076	HRS	74.8	74.6	8.1	1175	1163	3-Long Mixing	
880229	K80296/NK761011	K860078	HRS	71.6	71.5	3.7	1205	1199	3	3
880230	K80296/NK761011	K860085	HRS	71.0	71.4	3.5	1180	1205	2	2
880231	K80343/WA6307	K860098	HRS	69.0	68.9	4.1	1165	1159	2	2
880232	K80343/WA6307	K860099	HRS	67.6	67.6	4.4	1150	1150	2	2
880233	K80343/WA6307	K860100	HRS	67.0	67.1	4.0	1170	1176	3	3
880234	K80343/WA6307	K860101	HRS	67.3	67.3	3.3	1155	1155	2	2
880235	CI017903/MEX22A-5074M	K860130	HRS	70.0	70.2	5.5	1175	1187	3	3
880236	K790821/WPB906	K860134	HRS	70.7	70.6	3.7	1205	1199	2	2
880237	K790821/WPB906	K860136	HRS	68.5	68.7	4.3	1100	1112	3	3
880238	NK0751/PC0671	K860161	HRS	69.7	70.0	2.9	1115	1134	4-Low FYELD, P-BCRGR	
880239	ND585/SD8026	SD8052	HRS	70.4	69.5	3.1	1075	1019	4-P-LVOL, BCRGR	
880240	MT7336/SHORTANA	MT8446	HRS	72.8	71.0	4.5	1180	1068	3-P-FYELD	
880241	SU28-1*2/3/LEW//TIOGA*2/RL6043	ND0606	HRS	72.5	70.9	3.2	1105	1006	4-P-FYELD, LVOL	
880242	LEN//BUTTE*2/ND507/3/ND593	ND0626	HRS	72.1	70.3	3.5	1180	1068	4-Q-FYELD, BCRGR	
880243	SPILLMAN	WA7075	HRS	70.7	69.6	2.9	1155	1087	4-Q-BCRGR	
880244	WPB906R	WPB906	HRS	71.5	70.0	4.0	1200	1107	5	5
880245	MCKAY	CI017903	HRS	70.6	70.5	6.9	1130	1124	2	2

LOAF VOLUME VS PROTEIN ADVANCED HARD RED SPRING



Statistics	Graph A	Graph B
Size	29	3
Total	32745	3137
Mean	1129.137931	1045.666667
Maximum	1205	1110
Minimum	1005	981
Standard Dev.	57.041166	64.500646
Standard Error	10.592279	37.239465
95% Confidence	20.760866	72.989352
99% Confidence	27.328079	96.077821
a0	910.45474	136.216667
a1	15.29991	64.5
a2	0	0
a3	0	0
a4	0	0
a5	0	0
a6	0	0
Eval	0.193012	0.99999

NURSCO 10

PULLMAN, WA

C.F. KONZAK

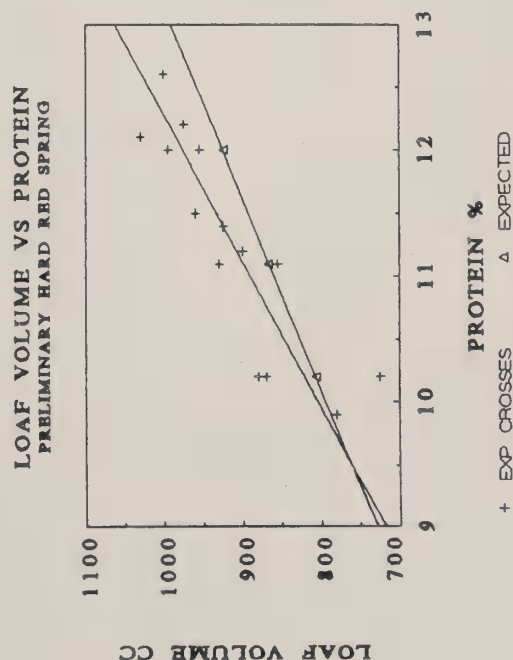
LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880246	WA6307/ID167	K8700019	HRS	61.0	68.4	0.31	87.9	9.9	60.2	4M
880247	WA6307/K7700613	K8700032	HRS	62.1	69.1	0.34	87.0	10.2	61.0	4M
880248	C1017903/MEX22A-5074M	K8700036	HRS	60.0	69.2	0.28	90.1	10.2	62.3	3M
880249	C1017903/MEX22A-D827	<u>6/</u> K8700039	HRS	60.7	69.7	0.27	91.0	10.2	59.3	6M
880250	V882-F73-B4-B3-C1017903	<u>5/</u> K8700046	HRS	59.8	71.4	0.32	90.2	12.1	64.1	5H
880251	V763-2-J2-B1/WA6825	K8700048	HRS	58.7	69.3	0.35	86.4	12.6	62.6	2H
880252	NDW80008/C1017903	<u>6/</u> K8700070	HRS	61.4	70.1	0.36	87.0	12.0	64.1	3H
880253	NK000751/PC 0671	K8700077	HRS	63.5	73.4	0.36	90.2	11.1	60.7	1H
880254	NK000751/PC 0671	K8700078	HRS	61.5	70.7	0.33	88.9	11.1	65.1	4H
880255	WPB00906/WA6823	K8700081	HRS	59.2	71.3	0.31	90.5	11.5	61.9	4M
880256	WPB00906/WA6824	K8700082	HRS	59.9	71.9	0.38	87.8	12.2	63.3	5H
880257	WPB00906/WA6824	<u>6/</u> K8700083	HRS	60.2	72.1	0.36	88.9	12.0	64.3	5H
880258	SPILLMAN	WA7075	HRS	61.1	70.8	0.33	88.8	11.4	63.5	2H
880259	WPB 906R	WPB906	HRS	61.8	70.5	0.33	88.5	11.2	62.7	4H

PULLMAN, WA

MURSCO 10

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880246	WA6307/ID167	K8700019	HRS	60.8	61.9	3.5	780	848	5	Q-FYELD, BCRGR
880247	WA6307/K7700613	K8700032	HRS	64.9	65.7	3.1	725	775	8	P-LVOL, BCRGR
880248	C1017903/MEX22A-5074M	K8700036	HRS	60.7	61.5	1.9	870	920	6	P-MTIME, BCRGR
880249	C1017903/MEX22A-D827	K8700039	HRS	59.2	60.0	4.3	880	930	3	
880250	V882-F73-B4-B3/C1017903	K8700046	HRS	65.9	64.8	5.7	1030	962	2	
880251	V763-2-J2-B1/WA6825	K8700048	HRS	64.4	62.8	2.2	1000	901	4	Q-MTIME, BCRGR
880252	NDM80008/C1017903	K8700070	HRS	65.8	64.8	3.6	995	933	4	Q-BCRGR
880253	NK000751/PC 0671	K8700077	HRS	61.0	60.9	2.0	855	849	6	P-MTIME, BCRGR
880254	NK000751/PC 0671	K8700078	HRS	65.9	65.8	3.5	930	924	5	P-BCRGR
880255	WPB00906/WA6823	K8700081	HRS	62.6	62.1	2.5	960	929	5	P-BCRGR
880256	WPB00906/WA6824	K8700082	HRS	65.2	64.0	5.1	975	901	4	Q-BCRGR
880257	WPB00906/WA6824	K8700083	HRS	64.0	63.0	4.7	955	893	3	
880258	SPILLMAN	WA7075	HRS	64.6	64.2	2.6	925	900	5	
880259	WPB 906R	WPB906	HRS	63.6	63.4	4.1	900	888	2	

Statistics	Graph A
Size	14
Total	12780
Mean	912.857143
Maximum	1030
Minimum	725
Standard Dev.	85.815417
Standard Error	22.935135
95% Confidence	44.952864
99% Confidence	59.173268
ad	-56.288776
a1	86.03705
a2	0
a3	0
a4	0
a5	0
a6	0
eval	0.871912



NURSCO 11

PULLMAN, WA

C.F. KONZAK

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880260	K82206/SD8014	K8700108	HRS	61.0	70.3	0.36	86.9	11.2	63.0	6M
880261	K82206/SD8014	K8700109	HRS	59.4	70.7	0.34	88.5	10.5	62.5	4M
880262	K82206/SD8014	K8700110	HRS	61.5	72.5	0.37	89.0	10.6	59.6	1H
880263	K82206/SD8014	K8700111	HRS	60.3	72.2	0.36	88.8	11.0	60.7	2M
880264	K82206/SD8014	K8700112	HRS	60.7	72.7	0.37	89.2	12.0	61.2	4M
880265	K82206/SD8015	K8700116	HRS	61.3	72.5	0.36	89.4	10.7	61.5	2M
880266	K82382/K82450	K8700164	HRS	59.3	69.6	0.36	86.4	10.3	60.6	3M
880267	K8100025/K82066, K81038/SRI 5232	<u>6/</u> K8700198	HRS	59.8	69.6	0.31	88.6	12.0	62.1	2H
880268	K8100025/SRI 5223	<u>5/</u> K8700200	HRS	62.2	70.4	0.31	89.6	11.0	62.9	3H
880269	K8100025/SRI 5223	K8700202	HRS	61.0	72.2	0.31	91.4	11.6	60.0	3M
880270	K8100025/NZISHP77, V763-2-J2-B1 NZ SEL. ¹⁵	K8700206	HRS	59.9	70.7	0.31	89.9	11.9	62.1	3H
880271	K8100025/NZISHP82, V761-28-J4-B2 NZ SEL.	K8700211	HRS	60.2	69.8	0.35	87.2	11.1	64.6	4H
880272	K8100025/NZISHP82, V761-28-J4-B2 NZ SEL. <u>5/</u>	K8700212	HRS	59.8	70.6	0.30	90.5	11.5	63.9	3H
880273	K8100025/NZISHP82, V761-28-J4-B2 NZ SEL. <u>6/</u>	K8700214	HRS	60.1	69.2	0.30	89.0	12.0	65.0	3H
880274	SPILLMAN	WA7075	HRS	61.8	70.8	0.32	89.7	11.1	62.4	3M
880275	WPB 906R	WP906	HRS	62.2	70.4	0.32	88.9	10.9	63.0	6M

USDA, SEA MM
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

PRELIMINARY HARD RED SPRING

CONTD. PAGE 1

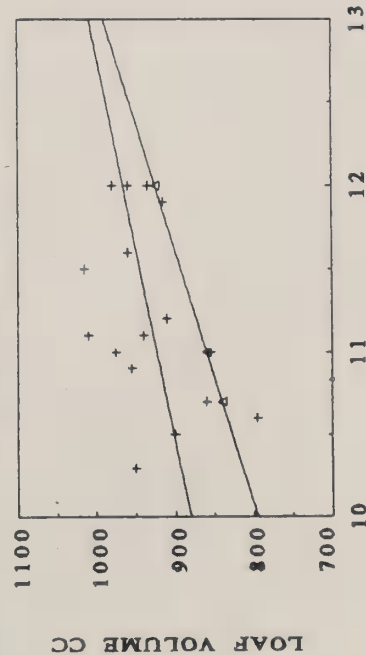
C.F. KONZAK

PULLMAN, WA

NURSCO 11

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880260	K82206/SD8014	K8700108	HRS	63.9	63.7	3.9	910	898		4 Q-BCRGR
880261	K82206/SD8014	K8700109	HRS	61.7	62.2	2.9	900	931		6 Q-BCRGR
880262	K82206/SD8014	K8700110	HRS	59.4	59.8	1.7	795	820		9 P-MTIME, LVOL, BCRGR
880263	K82206/SD8014	K8700111	HRS	59.9	59.9	1.8	855	855		8 P-MTIME, BCRGR
880264	K82206/SD8014	K8700112	HRS	63.4	62.4	3.2	980	918		4 Q-BCRGR
880265	K82206/SD8015	K8700116	HRS	60.4	60.7	1.7	860	879		8 P-MTIME, BCRGR
880266	K82382/K82450	K8700164	HRS	60.6	61.3	2.9	950	993		4 Q-FYELD, BCRGR
880267	K8100025/K82066, K81038/SRI 5232	K8700198	HRS	63.8	62.8	2.8	960	898		3
880268	K8100025/SRI 5223	K8700200	HRS	64.6	64.6	3.8	975	975		2
880269	K8100025/SRI 5223	K8700202	HRS	61.3	60.7	2.1	960	923		5 Q-BCRGR
880270	K8100025/NZTSHP77, V763-2-J2-B1 NZ SEL. 1	K8700206	HRS	63.2	62.3	3.3	915	859		2
880271	K8100025/NZTSHP82, V761-28-J4-B2 NZ SEL.	K8700211	HRS	65.4	65.3	3.5	1010	1004		4 Q-FYELD, BCRGR
880272	K8100025/NZTSHP82, V761-28-J4-B2 NZ SEL.	K8700212	HRS	64.6	64.1	3.5	1015	984		2
880273	K8100025/NZTSHP82, V761-28-J4-B2 NZ SEL.	K8700214	HRS	66.2	65.2	2.6	935	873		2
880274	SPILLMAN	WA7075	HRS	63.2	63.1	2.4	940	934		2
880275	WPB 906R	WP906	HRS	63.6	63.7	3.7	955	961		3

LOAF VOLUME VS PROTEIN
PRELIMINARY HARD RED SPRING



Statistics
Size 16
Total 14915
Mean 932.1875
Maximum 1015
Minimum 795
Standard Dev. 58.479875
Standard Error 14.619969
95% Confidence 28.655139
99% Confidence 37.71952
a0 453.608776
a1 42.682606
a2 0
a3 0
a4 0
a5 0
a6 0
Rval 0.411044

COMMENTS: See "Remarks" for major deficiencies of those not footnoted as promising.

USDA, SEA
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

STATE SOFT WHITE SPRING

NURSCO 12

PULLMAN, WA

C.F. KONZAK

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880276 WAVERLY		C1017911	SWS	61.4	71.8	0.35	82.3	9.6	54.2	3M
880277 ABERDEEN SELECTION (ID232)		P1468960	SWS	60.7	69.7	0.32	82.7	9.1	54.4	2M
880278 EDWALL		P1477919	SWS	60.4	69.7	0.32	82.4	8.4	55.0	2M
880279 PENAWAWA		P1495916	SWS	62.8	71.1	0.36	82.0	8.8	52.7	3L
880280 WAKANZ (WA007183) (HF820055)		P1506352	SWS	62.0	72.1	0.35	85.4	8.8	53.4	2M
880281 (WA7492)		P1506355	SWS	60.3	66.3	0.33	75.3	9.2	54.4	2M
880282 K79299-5 K78504/K74129-33//K7806645 NZ S		WA007176	SWS	60.3	70.4	0.35	79.9	8.9	54.3	2M
880283 (WADUAL)		WA007187	SWS	62.2	70.8	0.29	85.4	9.3	56.0	4M
880284 K7400315/POTAM 70 S. 47		6/WA007496	SWS	60.4	71.6	0.37	81.8	9.4	54.5	3M
880285 K79228-1 K74129-23/WA6395		6/WA007497	SWS	62.4	73.0	0.34	87.1	8.8	55.6	5M
880286 STERLING//COMBIRD'S/STERLING		6/ID000319	SWS	63.0	70.6	0.32	84.6	8.9	54.8	3M
880287 K79224-10 K74129-19/ID000065		K8305010	SWS	61.6	71.7	0.30	85.8	8.9	56.3	3M
880288 K79224-11 K74129-19/ID000065		6/K8305011	SWS	59.6	72.0	0.36	83.8	9.0	53.0	1M
880289 K80221 K7479/WALLADAY S.7		K8505020	SWS	60.0	70.7	0.35	81.8	9.1	52.9	1M
880290 KLASIC		P1486131	HWS	63.7	68.8	0.33	79.7	9.6	58.0	8M

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

STATE SOFT WHITE SPRING

C.F. KONZAK

PULLMAN, WA

NURSCO 12

LABNUM	VARIETY	IDNO	CLASS	COD1	CODIC	CAVOL	SCSOR	WTIN	NOSCOR	RMKS
880276 WAVERLY		CI017911	SWS	8.65	8.72	1325	74.0	334	73	
880277 ABERDEEN SELECTION (ID232)		PI468960	SWS	8.94	8.95	1305	74.0	347	74	Q-SCSOR
880278 EDWALL		PI477919	SWS	8.95	8.88	1385	82.0	352	76	
880279 PENAWAWA		PI495916	SWS	8.75	8.73	1360	81.0	343	77	
880280 WAKANZ (WA007183) (HF820055)		PI506352	SWS	9.33	9.30	1330	77.0	352	76	
880281 (WA7492)		PI506355	SWS	8.98	9.00	1305	77.0	356	75	P-FYELD
880282 K79299-5 K78504/K74129-33//K7806645 NZ S		WA007176	SWS	9.08	9.06	1340	75.0	342	74	Q-FYELD
880283 (WADUAL)		WA007187	SWS	8.84	8.87	1385	82.0	337	74	
880284 K7400315/POTAM 70 S. 47		WA007496	SWS	9.06	9.11	1380	84.0	337	71	P-NOSCOR
880285 K79228-1 K74129-23/WA6395		WA007497	SWS	8.95	8.93	1345	79.0	348	76	
880286 STERLING//COWBTRD'S/STERLING		ID000319	SWS	9.50	9.49	1325	77.0	342	75	
880287 K79224-10 K74129-19/ID000065		K8305010	SWS	8.87	8.86	1305	73.0	331	74	Q-SCSOR
880288 K79224-11 K74129-19/ID000065		K8305011	SWS	8.76	8.76	1305	75.0	339	74	Q-CODI
880289 K80221 K7479/WALLADAY S.7		K8505020	SWS	8.77	8.79	1325	75.0	330	74	Q-MSCOR, CODI
880290 KLASIC		PI486131	HWS	7.82	7.87	1140	61.0	303	71	Pour "Hard"

COMMENTS: The nursery was down slightly in milling quality. WA7496 is excellent in Cake making. ID232 was off slightly in flour yield but equal to Edwall, and off in sponge cake score but equal to Waverly. See "Remarks for major deficiencies. No noodle data available at this time.

C.F. KONZAK

PULLMAN, WA

NURSCO 13

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	CODI
880291	K7905753/K7905798, WA006153/POTAM 70	K8605021	SWS	61.6	70.2	0.37	80.8	9.7	56.6	8.64
880292	K7905769/K7600672	K8605025	SWS	63.3	70.1	0.36	81.0	9.5	57.1	8.79
880293	K7905779/NAPB103-77	K8605034	SWS	62.3	69.4	0.34	82.2	9.1	57.3	8.91
880294	K7906031/K7905631	6/ K8605036	SWS	60.3	69.1	0.36	80.0	9.6	57.7	9.24
880295	K80025/ID144	5/ K8605043	SWS	60.4	71.2	0.37	81.9	9.0	56.3	9.36
880296	K80063/K80187	6/ K8605054	SWS	62.8	70.5	0.34	83.2	9.0	57.2	9.07
880297	K80063/K80187	6/ K8605057	SWS	62.8	70.7	0.33	83.8	9.4	56.6	9.15
880298	K80184/K7905769	6/ K8605068	SWS	63.9	69.5	0.31	83.6	9.2	55.0	9.04
880299	K7905798/SNYT273-493	K8605094	SWS	63.8	70.8	0.33	84.2	8.6	55.0	8.57
880300	K80413/ID167	6/ K8605100	SWS	63.2	72.7	0.31	88.5	9.2	57.0	9.07
880301	K80413/ID167	5/ K8605101	SWS	63.2	72.1	0.30	87.2	8.2	55.1	9.29
880302	K80413/ID167	6/ K8605102	SWS	62.8	71.9	0.30	87.4	8.3	55.4	9.09
880303	K80421/WA6307	K8605105	SWS	61.1	71.4	0.32	83.9	9.5	56.0	8.52
880304	SRI 5221/WA6711	6/ K8605123	SWS	62.5	72.9	0.37	84.5	9.6	57.5	9.01
880305	K79299/K7905328	K8605142	SWS	60.9	66.1	0.32	77.3	9.6	57.0	8.73
880306	K79299/K7905328	5/ K8605143	SWS	60.7	72.7	0.32	88.1	8.9	57.5	9.11
880307	ID0190/K7905138	6/ K8600196	SWS	61.7	71.5	0.32	85.3	9.1	55.6	8.98
880308	ID0190/K7905317	6/ K8600214	SWS	63.1	70.8	0.33	84.0	9.9	58.8	9.17
880309	ID0190/K7905658	6/ K8600223	SWS	62.1	69.7	0.33	82.3	10.5	57.5	9.17
880310	ID0190/K79291	6/ K8600224	SWS	62.5	68.9	0.32	81.5	10.1	58.8	9.12
880311	ID0229/C1017859	K8600238	SWS	62.8	66.9	0.31	79.5	9.7	59.3	8.90
880312	ID0229/C1017859	K8600239	SWS	62.8	66.9	0.31	79.5	9.7	59.3	8.90
880313	K7807010/ID0190	6/ K8600245	SWS	62.3	69.6	0.31	81.6	9.1	56.7	9.14
880314	K7807010/ID0190	5/ K8600254	SWS	60.9	73.4	0.32	88.4	8.7	58.1	9.41
880315	WA006832/C1017347	6/ K8600264	SWS	61.8	69.5	0.34	79.8	9.6	58.7	9.25
880316	PENAWAWA	P1495916	SWS	62.2	68.9	0.36	78.2	9.0	57.3	9.04

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

ADVANCED SOFT WHITE SPRING

C.F. KONZAK

PULLMAN, WA

NURSCO 13

LABNUM	VARIETY	IDNO	CLASS	CODIC	MTYPE	RMKS
880291	K7905753/K7905798, WA006153/POTAM 70	K8605021	SWS	8.71	4M P-CODI	
880292	K7905769/K7600672	K8605025	SWS	8.84	4M Q-CODI	
880293	K7905779/NAP8103-77	K8605034	SWS	8.92	7M Q-CODI	
880294	K7906031/K7905631	K8605036	SWS	9.30	3M	
880295	K80025/ID144	K8605043	SWS	9.36	3M	
880296	K80063/K80187	K8605054	SWS	9.07	2M	
880297	K80063/K80187	K8605057	SWS	9.19	2M	
880298	K80184/K7905769	K8605068	SWS	9.06	5M	
880299	K7905798/SNYT273-493	K8605094	SWS	8.53	5M P-CODI	
880300	K80413/ID167	K8605100	SWS	9.10	5M	
880301	K80413/ID167	K8605101	SWS	9.20	3L	
880302	K80413/ID167	K8605102	SWS	9.01	3L	
880303	K80421/WA6307	K8605105	SWS	8.58	4M P-CODI	
880304	SRI 5221/WA6711	K8605123	SWS	9.08	3M	
880305	K79299/K7905328	K8605142	SWS	8.79	2M P-CODI, FYELD	
880306	K79299/K7905328	K8605143	SWS	9.10	2M	
880307	ID0190/K7905138	K8600196	SWS	8.99	4M	
880308	ID0190/K7905317	K8600214	SWS	9.27	2M	
880309	ID0190/K7905658	K8600223	SWS	9.34	5M	
880310	ID0190/K79291	K8600224	SWS	9.25	4M	
880311	ID0229/C1017859	K8600238	SWS	8.98	2M P-FYELD	
880312	ID0229/C1017859	K8600239	SWS	8.98	2M P-FYELD	
880313	K7807010/ID0190	K8600245	SWS	9.15	2M	
880314	K7807010/ID0190	K8600254	SWS	9.38	6L	
880315	WA006832/C1017347	K8600264	SWS	9.32	4M	
880316	PENAWAWA	PI495916	SWS	9.04	2M	

COMMENTS: Several of these are better than Penawawa in overall soft wheat quality (see footnotes). See "Remarks" for deficiencies.

C. F. KONZAK

PULLMAN, WA

NURSCO 14

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	CODI
880317	(N163//G25//MERAV,SEL 45)/K74102 SEL	6/ K8705020	SWS	61.6	70.0	0.32	90.1	10.7	54.8	9.37
880318	(N163//G25//MERAV,SEL 45)/K74102 SEL	6/ K8705022	SWS	62.7	70.3	0.34	89.1	10.0	54.1	9.51
880319	SRI 5221/SNYT 0088	6/ K8705026	SWS	59.0	71.4	0.37	88.3	9.6	55.4	9.30
880320	SRI 5232/K7600263	6/ K8705041	SWS	61.9	71.0	0.33	90.8	9.3	55.2	9.41
880321	V881-E59-B1-B1-82-J3/ND000572	6/ K8705060	SWS	59.9	69.4	0.30	90.6	10.1	55.4	9.41
880322	ID0190/WA6753	5/ K8705081	SWS	62.5	70.8	0.30	91.8	10.5	54.3	9.62
880323	ID0190/WA6827	6/ K8705083	SWS	61.3	71.2	0.31	92.3	9.6	54.3	9.34
880324	ID0190/WA6833	6/ K8705089	SWS	60.8	69.8	0.31	90.1	9.8	55.1	9.34
880325	K81448/K81442	5/ K8705096	SWS	60.5	72.1	0.33	91.9	9.7	55.6	9.48
880326	PAVON 76/K81478	K8705105	SWS	60.1	69.2	0.36	86.2	10.5	56.4	8.61
880327	PAVON 76/C1017911	K8705111	SWS	60.0	66.9	0.38	82.3	11.3	56.8	9.20
880328	POTAM 70/K7905652	6/ K8705112	SWS	59.7	71.4	0.34	90.6	10.0	55.5	9.05
880329	POTAM 70/C1017859	6/ K8705113	SWS	60.5	71.5	0.33	91.4	9.4	55.2	9.27
880330	WA6829/ID0190	6/ K8705129	SWS	59.5	69.9	0.34	88.5	9.8	53.8	9.35
880331	WA6833/PAVON 76	K8705171	SWS	60.1	67.7	0.33	86.5	9.4	55.5	8.98
880332	WA6833/WA6830	6/ K8705177	SWS	61.1	70.6	0.32	90.6	9.6	55.8	9.29
880333	TREASURE	P1468962	SWS	60.9	70.5	0.35	88.9	9.5	55.1	9.10
880334	PENAWAWA	P1495916	SWS	61.2	68.5	0.37	84.7	9.7	55.0	9.56
880335	WAKANZ (WA07183)	P1506352	SWS	62.1	71.0	0.35	89.1	9.5	56.0	9.55

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

PRELIMINARY SOFT WHITE SPRING

C.F. KONZAK

PULLMAN, WA

NURSCO 14

LABNUM	VARIETY	IDNO	CLASS	CODIC	MTYPE	RMKS
880317	(N163//G25//MERAV, SEL 45)/K74102 SEL	K8705020	SWS	9.45	3M	
880318	(N163//G25//MERAV, SEL 45)/K74102 SEL	K8705022	SWS	9.51	3M	
880319	SRI 5221/SNYT 0088	K8705026	SWS	9.26	2M	
880320	SRI 5232/K7600263	K8705041	SWS	9.34	3M	
880321	V881-E59-B1-B2-J3/ND000572	K8705060	SWS	9.42	2M	
880322	ID0190/WA6753	K8705081	SWS	9.68	2M	Outstanding
880323	ID0190/WA6827	K8705083	SWS	9.29	2M	
880324	ID0190/WA6833	K8705089	SWS	9.32	1M	
880325	K81448/K81442	K8705096	SWS	9.44	2M	
880326	PAVON 76/K81478	K8705105	SWS	8.67	3M	Q-FYELD, D-CODI
880327	PAVON 76/C1017911	K8705111	SWS	9.34	3M	P-FYELD
880328	POTAM 70/K7905652	K8705112	SWS	9.05	2M	
880329	POTAM 70/C1017859	K8705113	SWS	9.21	2M	
880330	WA6829/ID0190	K8705129	SWS	9.33	2M	
880331	WA6833/PAVON 76	K8705171	SWS	8.91	3M	P-FYELD, Q-CODI
880332	WA6833/WA6830	K8705177	SWS	9.24	3M	
880333	TREASURE	P1468962	SWS	9.05	2M	
880334	PENAWAWA	P1495916	SWS	9.53	2M	
880335	WAKANZ (WA07183)	P1506352	SWS	9.49	2M	

COMMENTS: Most of these selections appear equal to or better than the check varieties in both milling and cookie baking.

C.F. KONZAK

PULLMAN, WA

NURSCO 15

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	CODI
880336	WA6833/VA6830	6/ K8705178	SWS	60.8	69.7	0.32	89.5	9.0	53.5	9.49
880337	WA6833/VA6830	6/ K8705179	SWS	59.6	70.2	0.31	90.7	8.4	53.5	9.24
880338	WA6833/VA6830	6/ K8705181	SWS	61.9	71.1	0.32	91.4	8.8	52.6	9.27
880339	WA6833/VA6826	K8705185	SWS	62.3	67.8	0.33	86.2	9.2	52.3	9.26
880340	C1017347/C1017745	5/ K8705188	SWS	59.8	71.4	0.34	90.3	8.5	51.9	9.58
880341	C1017347/C1017745	6/ K8705189	SWS	60.8	69.8	0.34	88.6	10.0	51.8	9.27
880342	K82390/K82353	6/ K8705210	SWS	61.0	69.6	0.34	88.2	9.8	51.6	9.59
880343	K82494/K82387	K8705211	SWS	61.0	67.9	0.35	85.5	9.1	51.5	9.46
880344	K82494/K82387	K8705212	SWS	59.3	67.1	0.33	85.7	9.1	53.7	9.73
880345	K82512/K82376	6/ K8705216	SWS	61.8	69.6	0.32	89.1	8.9	53.1	9.46
880346	K78512/K79299	K8705261	SWS	61.2	67.7	0.34	85.9	9.4	52.7	9.14
880347	K82359/K82372	6/ K8705283	SWS	59.0	69.0	0.36	86.0	9.6	53.3	9.40
880348	K82359/K79251-36	6/ K8705286	SWS	63.4	69.6	0.32	89.6	8.9	53.2	9.33
880349	K82382/K82407	6/ K8705301	SWS	63.6	70.3	0.29	91.9	8.8	53.2	9.52
880350	K82382/K82407	6/ K8705303	SWS	62.8	70.6	0.30	91.9	9.0	53.0	9.55
880351	K82382/K82407	5/ K8705306	SRS	63.5	72.0	0.28	95.0	8.8	53.2	9.69
880352	K82385/K82449	K8705324	SWS	60.6	67.6	0.34	85.3	10.0	53.5	9.48
880353	K82385/K82407	K8705327	SWS	61.3	67.7	0.40	81.7	9.3	53.3	9.34
880354	K82430/VA6921	6/ K8705328	SWS	60.8	71.4	0.35	89.6	9.7	52.2	9.49
880355	K82447/K82450	5/ K8705342	SWS	60.9	72.4	0.34	91.8	9.0	52.4	9.23
880356	K82447/K82450	6/ K8705343	SWS	60.2	71.4	0.35	90.0	9.8	52.2	9.42
880357	K82447/K82450	5/ K8705344	SWS	60.5	71.9	0.35	90.7	9.4	52.5	9.24
880358	PENAWAWA	P1495916	SWS	61.0	67.8	0.38	83.2	9.0	52.8	9.16
880359	WAKANZ (WA007183)	P1506352	SWS	62.3	70.5	0.36	87.8	9.5	53.0	9.45

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

PRELIMINARY SOFT WHITE SPRING

C.F. KONZAK

PULLMAN, WA

NURSCO 15

LABNUM	VARIETY	IDNO	CLASS	CODIC	MTYPE	RMKS
880336	WA6833/WA6830	K8705178	SWS	9.49	2L	
880337	WA6833/WA6830	K8705179	SWS	9.17	2M	
880338	WA6833/WA6830	K8705181	SWS	9.25	2L	
880339	WA6833/WA6826	K8705185	SWS	9.28	4M	-Low FYELD
880340	CI017347/CI017745	K8705188	SWS	9.52	2L	
880341	CI017347/CI017745	K8705189	SWS	9.38	1M	
880342	K82390/K82353	K8705210	SWS	9.68	2M	
880343	K82494/K82387	K8705211	SWS	9.47	2M	Q-FYELD
880344	K82494/K82387	K8705212	SWS	9.74	2M	Q-FYELD
880345	K82512/K82376	K8705216	SWS	9.45	2M	
880346	K78512/K79299	K8705261	SWS	9.18	2M	Q-FYELD
880347	K82359/K82372	K8705283	SWS	9.47	2M	
880348	K82359/K79251-36	K8705286	SWS	9.31	2M	
880349	K82382/K82407	K8705301	SWS	9.50	3L	
880350	K82382/K82407	K8705303	SWS	9.55	3M	
880351	K82382/K82407	K8705306	SRS	9.67	2M	Note Red Color
880352	K82385/K82449	K8705324	SWS	9.59	3M	Q-FYELD
880353	K82385/K82407	K8705327	SWS	9.37	2M	Q-FYELD
880354	K82430/WA6921	K8705328	SWS	9.56	2M	
880355	K82447/K82450	K8705342	SWS	9.23	2M	
880356	K82447/K82450	K8705343	SWS	9.51	2M	
880357	K82447/K82450	K8705344	SWS	9.28	2M	
880358	PENAWAWA	PI495916	SWS	9.16	2M	
880359	WAKANZ (WA007183)	PI506352	SWS	9.51	2M	

COMMENTS: Most of these selections appear equal to or better in overall quality than Penawawa and Wakanz. The major deficiency of those not footnoted was a low flour yield.

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

SOFT WHITE WINTER WHEAT

C.J. PETERSON

POMEROY, WA

NURSCO 16

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	CODI
880360	KHARKOF	CI001442	HRW	64.0	71.4	0.32	90.3	11.6	57.1	8.25
880361	MUGAINES	CI013968	SWW	64.5	69.4	0.37	85.7	11.1	57.4	8.73
880362	DAWS	CI017419	SWW	61.0	68.8	0.41	82.4	10.8	59.0	8.58
880363	DUSTY	PI486429	SWW	61.0	68.2	0.39	82.9	11.7	58.5	8.74
880364	LEWJAIN	CI017909	SWW	63.0	70.4	0.41	84.4	10.9	58.6	9.21
880365	HILL81	OR068007	SWW	63.0	72.3	0.43	85.6	12.6	59.8	8.71
880366	STEPHENS	CI017569	SWW	60.0	69.4	0.40	83.9	12.1	60.8	8.79
880367	MALCOLM	ORCW8113	SWW	60.0	67.5	0.38	83.1	11.4	60.5	8.81
880368	OVESON	OR007996	SWW	62.0	71.0	0.42	84.6	10.2	60.3	8.94
880369	VPM/MOS951//2*OR068007	WA007163	SWW	61.0	72.2	0.40	87.8	12.1	55.9	8.35
880370	LUKE/VH67375//VPM/MOS	WA007529	SWW	61.0	68.6	0.41	82.6	11.0	59.5	8.95
880371	MARIS HUNTSMAN/VH74521	6/ WA007627	SWW	62.0	70.7	0.41	84.9	10.6	59.1	9.15
880372	ELGIN	CI011755	CLUB	62.0	72.0	0.37	89.0	12.9	59.6	8.92
880373	MORO	CI013740	CLUB	58.0	68.6	0.46	79.0	12.2	59.5	9.00
880374	CREW	CI017951	CLUB	61.0	69.9	0.38	85.7	12.2	58.3	8.75
880375	TRES	CI017917	CLUB	63.5	71.5	0.37	88.4	12.1	59.9	8.96
880376	VPM/MOS421//2*TYEE	WA007166	SWW	61.0	71.7	0.37	88.6	11.6	59.3	8.76
880377	TRES COMPOSITE CROSS	WA007526	CLUB	63.5	72.5	0.27	95.9	11.3	56.4	8.79
880378	TRES MULTILINE 86	WA007527	CLUB	62.5	71.7	0.34	90.5	11.4	59.4	8.98
880379	ID3528/WA6814	6/ WA007628	SWW	60.0	71.4	0.26	95.1	12.4	61.6	8.87
880380	NOR/YAMHILL//6720	ORCW8416	SWW	61.0	69.9	0.29	91.9	11.1	58.8	8.80
880381	TJB801-12795/SPN	5/ ORCW8517	SWW	61.5	70.6	0.36	87.9	12.2	54.4	9.11
880382	NLY/2*SPN(A791128WA-1)	ID000329	SWW	59.0	71.5	0.31	92.7	12.4	58.0	8.59
880383	NLY/2*SPN(A791128W-B-2)	ID000330	SWW	59.0	69.4	0.29	90.7	12.1	58.2	8.81
880384	HYSLOP/CERCO, H-308	OR000843	SWW	61.5	72.0	0.31	93.3	11.5	58.6	7.94
880385	HYSLOP/CERCO, B-307	5/ OR000842	SWW	58.5	70.3	0.25	94.9	11.7	58.6	9.27
880386	OREGON SELECTION	OR000845	HWW	61.5	65.4	0.25	87.7	10.4	60.0	8.89
880387	DAWS/SW4//MDM//SM11	ORFW0301	SWW	60.5	69.7	0.31	89.9	12.4	58.1	8.95
880388	YMH/MCD/2/TSPelta/3/SU92	ORF75336	SWW	58.5	67.4	0.30	87.5	12.5	56.3	8.87
880389	VPM/421/VH66354/WA5827/	WA007621	HWW	62.5	67.6	0.33	85.9	11.2	58.1	9.09

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 11% Protein

4/ Observed Values Corrected to 11% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

SOFT WHITE WINTER WHEAT

NURSCO 16

POMEROY, WA

C.J. PETERSON

LABNUM	VARIETY	IDNO	CLASS	CODIC 4/	MTYPE	RMKS
880360	KHARKOF	CI001442	HRW	8.30	3H	
880361	NUGAINES	CI013968	SWW	8.74	1M	
880362	DAWS	CI017419	SWW	8.55	1M	
880363	DUSTY	PI486429	SWW	8.81	4M	
880364	LEWJAIN	CI017909	SWW	9.20	4M	
880365	HILL81	OR068007	SWW	8.89	2M	
880366	STEPHENS	CI017569	SWW	8.91	2M	
880367	MALCOLM	ORCW8113	SWW	8.86	2M	
880368	OVESON	OR007996	SWW	8.85	3M	
880369	VPM/MOS951//2*OR068007	WA007163	SWW	8.47	2M	
880370	LUKE/VH67375//VPM/MOS	WA007529	SWW	8.95	3M	
880371	MARIS HUNTSMAN/VH74521	WA007627	SWW	9.11	2M	
880372	ELGIN	CI011755	CLUB	9.06	1M	
880373	MORO	CI013740	CLUB	9.09	3M	
880374	CREW	CI017951	CLUB	8.84	2M	
880375	TRES	CI017917	CLUB	9.04	1M	
880376	VPM/MOS421//2*TYEE	WA007166	SWW	8.83	6M	
880377	TRES COMPOSITE CROSS	WA007526	CLUB	8.81	1M	
880378	TRES MULTILINE 86	WA007527	CLUB	9.00	2M	
880379	ID3528/WA6814	WA007628	SWW	9.03	3M	
880380	NOR/YAMHILL//6720	ORCW8416	SWW	8.81	3M	
880381	TJB801-12795/SPN	ORCW8517	SWW	9.24	1M	
880382	NLY/2*SPN(A791128WA-1)	ID000329	SWW	8.74	1H	
880383	NLY/2*SPN(A791128W-B-2)	ID000330	SWW	8.93	2M	
880384	HYSLOP/CERCO,H-308	OR000843	SWW	7.99	3H	P-CODI
880385	HYSLOP/CERCO,B-307	OR000842	SWW	9.35	2M	
880386	OREGON SELECTION	OR000845	HWW	8.84	4M	
880387	DAWS/SM4//MDM//SM11	ORFW0301	SWW	9.10	2M	
880388	YMH/MCD/2/TSPelta/3/SU92	ORF5336	SWW	9.04	2M	
880389	VPM/421/VH66354/WA5827/	WA007621	HWW	9.10	2M	

USDA, ARS
WESTERN WHEAT QUALITY LAB.
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SOFT WHITE WINTER WHEAT

NURSCO 16

POMEROY, WA

C.J. PETERSON

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	COOI
880390	TYEE/ROAZON/TRES	5/WA007622	SWW	61.0	71.6	0.21	99.0	10.4	55.9	9.21
880391	STEPHENS/ROAZON/SEL 101	WA007623	SWW	60.0	68.6	0.33	87.2	11.9	57.6	9.05
880392	VPM/MS951/PECK/SPN/DAWS	6/WA007624	SWW	60.0	71.9	0.30	93.2	11.1	57.2	9.01
880393	WA007163 51B	WA007625	SWW	61.0	72.0	0.32	92.1	11.8	57.8	8.64
880394	V78037, OR680073/CERCO	VH084463	HWW	62.0	71.7	0.23	95.3	10.5	60.3	8.64
880395	VH77553/3/JACMAR	VH084302	SWW	61.5	69.9	0.29	91.3	11.1	60.5	8.89
880396	VH79121, SPN/CER//HILL 81	VH086051	SWW	60.0	69.8	0.25	94.3	11.2	58.7	9.11
880397	.	PB180003	SWW	61.5	68.6	0.30	89.6	11.2	57.8	9.19
880398	.	PB180005	SWW	60.0	68.6	0.34	86.5	11.2	58.7	8.98
880399	.	PB180006	SWW	60.5	67.9	0.39	82.5	10.9	58.4	8.87
880400	WVP257	6/VH087516	SWW	63.0	69.7	0.32	89.7	12.2	63.6	9.16
880401	PAHA//SEL72-330/DAWS	OR000855	SWW	62.5	70.1	0.35	87.8	11.6	59.0	8.89
880402	VH82755, BR 81-4/HILL 81	VH087312	HWW	63.0	73.6	0.36	89.9	9.7	62.0	8.66
880403	WA6912/ID745318	6/VH087409	SWW	63.5	71.8	0.37	88.7	10.9	59.9	9.10
880404	LEWJAIN/ID232	VH087450	SWW	61.0	65.4	0.38	79.9	11.8	61.6	8.79
880405	LUKE/BR704434	WA7431	SWW	63.0	69.7	0.34	88.0	11.0	60.1	8.90
880406	MARIS HUNTSMAN/VH75521	WA136910	SWW	62.5	70.4	0.39	85.8	10.4	62.6	9.39
880407	BVR/C115923//NGS	WA691213	SWW	62.0	66.5	0.36	82.6	10.9	61.0	9.20
880408	WA6470//SRG/LUKE	VH084119	SWW	61.5	68.5	0.35	85.8	11.8	64.1	9.14
880409	WA6581//BARBEE/AM70207	VD084042	SWW	61.5	68.4	0.38	83.8	11.3	62.5	8.99
880410	DAWS//VH78297/CER	VH084225	SWW	62.5	69.7	0.35	87.3	10.8	61.3	8.69
880411	DAWS/LUKE//VH68425	VH084239	SWW	60.0	65.5	0.40	78.9	11.6	61.7	8.98
880412	BBY/HYS//LUKE/3/LJN	VH085051	SWW	61.0	69.0	0.36	85.8	11.6	60.4	9.12
880413	MARKSMAN/DAWS	VH085208	SWW	59.0	69.7	0.37	86.1	9.3	56.8	9.24
880414	SPRAGUE/WA6146//WA6697	VH085337	SWW	63.0	68.9	0.38	84.4	11.0	60.1	8.82
880415	MORO/ID745318//(?)	6/VJ085519	SWW	55.0	63.6	0.41	75.8	11.7	60.4	8.81
880416	.	PB107957	SWW	61.5	70.3	0.41	84.4	10.7	58.6	9.12
880417	VPM-1/M//VH79121/3/VH79309	VH086204	SWW	61.5	66.3	0.36	82.4	11.3	59.5	8.80
880418	VD80262//VPM-1/M/3/DAWS	VH086217	SWW	59.5	69.7	0.39	84.8	11.1	57.2	8.36
880419	BOUNTY (CAMB)/4/VH79245	VH086313	HWW	62.0	74.6	0.34	92.4	11.9	59.6	8.58

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

SOFT WHITE WINTER WHEAT

C.-J. PETERSON

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POMEROY, WA

LABNUM	VARIETY	IDNO	CLASS	CODIC	MTYPE	RMKS
880390	TYEE/ROAZON/TRES	WA007622	SWW	9.15	2M	
880391	STEPHENS/ROAZON/SEL 101	WA007623	SWW	9.15	3M	
880392	VPM/MS951/PECK/SPN/DAWS	WA007624	SWW	9.02	2M	
880393	WA007163 SIB	WA007625	SWW	8.73	2M	
880394	V78037, OR680073/CERCO	VH084463	HWW	8.60	4M	
880395	VH77553/3/JACMAR	VH084302	SWW	8.90	3M	
880396	VH79121, SPN/CER//HILL 81	VH086051	SWW	9.13	2M	
880397	.	PB180003	SWW	9.21	4M	
880398	.	PB180005	SWW	9.00	4M	
880399	.	PB180006	SWW	8.86	4M	Q-FYELD
880400	WVP257	VH087516	SWW	9.29	3H	
880401	PAHA//SEL72-330/DAWS	OR000855	SWW	8.95	2M	
880402	VM82755, BR 81-4/HILL 81	VH087312	HWW	8.56	3M	
880403	WA6912/ID745318	VH087409	SWW	9.09	2M	
880404	LEWJAIN/ID232	VH087450	SWW	8.88	3M	P-FYELD
880405	LUKE/BR704434	WA7431	SWW	8.90	8M	
880406	MARIS HUNTSMAN/VH75521	WA136910	SWW	9.32	4M	Q-MABSC
880407	BVR/CI15923//NGS	WA691213	SWW	9.19	3M	P-FYELD
880408	WA6470//SRG/LUKE	VH084119	SWW	9.23	2H	Q-MABSC
880409	WA6581//BARBEE/AM70207	VD084042	SWW	9.02	3M	Q-MABSC
880410	DAWS//VH78297/CER	VH084225	SWW	8.67	6M	
880411	DAWS/LUKE//VH68425	VH084239	SWW	9.04	3M	P-FYELD
880412	BBY/HYS//LUKE/3/LJN	VH085051	SWW	9.19	2M	
880413	MARKSMAN/DAWS	VH085208	SWW	9.05	3L	
880414	SPRAGUE/WA6146//WA6697	VH085337	SWW	8.82	3M	
880415	MORO/ID745318//(?)	VJ085519	SWW	8.89	4M	P-FYELD, P-TWT
880416	.	PB107957	SWW	9.09	4M	
880417	VPM-1/M//VH79121/3/VH79309	VH086204	SWW	8.83	6M	P-FYELD
880418	VD80262//VPM-1/M/3/DAWS	VH086217	SWW	8.37	4M	P-CODI
880419	BOUNTY (CAMB)/4/VH79245	VH086313	HWW	8.65	4M	

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POMEROY, WA

C.J. PETERSON

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	CODE
880420	MITHRAS/DAWS	5/ VH086019	SWW	60.0	71.5	0.37	88.4	9.7	55.9	9.55
880421	VJ77296//CB73-216/WA6146	6/ VH086048	SWW	60.5	70.1	0.41	84.1	12.3	59.7	8.96
880422	OLYMPIA/LUKE//VH79258	VH086065	SWW	61.0	67.5	0.42	80.2	10.8	58.2	8.79
880423	VH166438/DAWS/HILL81	VH086206	SWW	61.0	69.3	0.33	88.1	11.8	59.7	9.09
880424	VH79121, SPN/CER/VH80468	VH086248	HWW	61.5	68.5	0.33	86.8	10.7	58.3	8.61
880425	FW73830-002/3/MLD/2/RBS/	ORF20519	SWW	60.0	69.2	0.30	89.8	11.4	57.4	9.35
880426	AM79057/VH79121, SPN/CER	5/ VH086406	SWW	59.5	70.7	0.41	84.9	10.2	59.9	9.40
880427	VH80487, MHM/DAWS//VH805	VH086424	SWW	52.0	72.2	0.33	91.8	9.8	57.3	8.92
880428	VH80833/VH80178	VH086428	SWW	58.0	66.8	0.44	78.0	10.8	60.0	8.83
880429	ID72001/P117338	6/ VJ086468	SWW	60.0	71.7	0.40	86.8	10.5	57.0	9.14
880430	JACMAR/SPRAGUE	VC084077	SWW	57.0	68.7	0.44	80.5	11.9	57.6	9.16
880431	SPRAGUE/WA6146//TYEE	VD086008	SWW	62.0	69.8	0.39	84.9	11.9	59.4	8.77
880432	SPRAGUE/ID72001	VH086022	SWW	64.0	69.5	0.35	87.1	10.7	59.4	9.14
880433	WA6580/HILL81	VH086032	SWW	58.5	69.6	0.39	84.7	12.1	59.4	8.99
880434	VH72433/LUKE//ID721//DWS	VH086058	SWW	59.0	69.5	0.35	87.1	11.2	58.2	9.24
880435	DKWB3/ID74531812	VH086121	SWW	58.0	64.4	0.38	78.7	10.8	55.8	8.90
880436	CORVALLIS SEL	6/ ORCW8632	SWW	60.0	70.4	0.35	88.2	11.5	57.3	9.20
880437	V80037, ROAZON/DAWS//DAWS	VH086176	SWW	61.0	68.9	0.31	90.1	11.0	59.7	8.29
880438	VH79245/SPN	VH086252	SWW	61.0	69.7	0.31	91.1	11.3	59.7	8.66
880439	CORVALLIS SEL	ORCW8633	SWW	62.0	69.0	0.35	86.4	10.7	57.7	9.36
880440	AM79057/LEWJAIN	VH086452	SWW	60.0	72.1	0.37	89.1	13.0	58.3	8.75
880441	WA6814/WA6698	5/ VA087002	SWW	60.0	72.4	0.38	88.9	11.4	56.9	9.19
880442	WA6814/OR794	6/ VB087008	SWW	60.5	70.5	0.39	85.9	11.6	56.4	9.34
880443	AM79057/WA6814	5/ VB087009	SWW	61.0	72.4	0.39	88.3	12.8	57.2	8.98
880444	WA6814/WA6581	5/ VD087011	SWW	62.5	71.1	0.37	87.9	11.8	55.3	9.12
880445	RZN/STEPHENS//LEWJAIN	VH087019	SWW	59.0	68.6	0.37	84.7	11.9	56.6	9.06
880446	VH166438/DAWS//HILL81	VH087031	SWW	61.0	64.8	0.39	78.6	13.4	58.0	8.40
880447	CORVALLIS SEL	ORCW8635	SWW	61.0	69.7	0.38	85.5	11.4	56.6	9.24
880448	BRIGAND/STEPHENS	5/ VH087051	SWW	60.0	71.3	0.39	86.8	11.7	55.7	9.08
880449	CORVALLIS SEL	ORCW8637	SWW	61.0	69.8	0.40	84.4	11.6	55.8	8.54

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LABNUM	VARIETY	IDNO	CLASS	CODIC	MTYPE	RMKS
880420	MITHRAS/DAWS	VH086019	SWW	9.41	4L	
880421	VJ77296//C873-216/WA6146	VH086048	SWW	9.11	2M	
880422	OLYMPIA/LUKE//VH79258	VH086065	SWW	8.77	3M	Q-FYELD, Q-MSCOR
880423	VH166438/DAWS/HILL81	VH086206	SWW	9.18	2M	
880424	VH79121, SPN/CER/VH80468	VH086248	HWW	8.59	3M	
880425	FW73830-002/3/MLD/2/RBS/	ORF20519	SWW	9.39	2M	
880426	AM79057/VH79121, SPN/CER	VH086406	SWW	9.31	3M	
880427	VH80487, MMH/DAWS//VH805	VH086424	SWW	8.79	3M	
880428	VH80833/VH80178	VH086428	SWW	8.80	4M	P-FYELD, Q-MSCOR
880429	ID72001/PI173438	VJ086468	SWW	9.08	2M	
880430	JACMAR/SPRAGUE	VC084077	SWW	9.26	2M	
880431	SPRAGUE/WA6146//TYEE	VD086008	SWW	8.87	4H	
880432	SPRAGUE/ID72001	VH086022	SWW	9.10	2M	
880433	WA6580/HILL81	VH086032	SWW	9.11	2M	
880434	VH72433/LUKE//ID721//DWS	VH086058	SWW	9.26	4M	
880435	DKWB3/ID74531812	VH086121	SWW	8.88	3M	P-FYELD, P-MSCOR
880436	CORVALLIS SEL	ORCW8632	SWW	9.26	1M	
880437	V80037, ROAZON/DAWS//DAWS	VH086176	SWW	8.29	7M	P-CODI
880438	VH79245/SPN	VH086252	SWW	8.70	2M	
880439	CORVALLIS SEL	ORCW8633	SWW	9.33	2M	
880440	AM79057/LEWJAIN	VH086452	SWW	8.97	3M	
880441	WA6814/WA6698	VA087002	SWW	9.23	1M	
880442	WA6814/OR794	V8087008	SWW	9.40	1M	
880443	AM79057/WA6814	V8087009	SWW	9.17	3M	
880444	WA6814/WA6581	VD087011	SWW	9.21	1M	
880445	RZN/STEPHENS//LEWJAIN	VH087019	SWW	9.16	3M	P-FYELD, P-MSCOR
880446	VH166438/DAWS//HILL81	VH087031	SWW	8.66	1H	
880447	CORVALLIS SEL	ORCW8635	SWW	9.28	1M	
880448	BRIGAND/STEPHENS	VH087051	SWW	9.15	1M	
880449	CORVALLIS SEL	ORCW8637	SWW	8.60	2M	

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LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	CODI
880450	WA6581/WA6146/ID721	<u>5/</u> VH087078	SWW	60.5	71.2	0.41	85.5	11.3	56.2	9.42
880451	ELMO/TYEE	VA087137	SWW	60.0	69.8	0.35	87.5	11.3	56.3	8.90
880452	STELLA/TYEE	VA087142	SWW	62.5	69.0	0.29	91.5	12.3	56.7	9.01
880453	WA6698/DAWS	VB087151	SWW	61.0	69.1	0.35	86.6	12.3	53.6	9.04
880454	WA6698/WA6581	VB087153	SWW	64.0	68.9	0.26	92.9	11.5	52.4	9.10
880455	BARBEE/TYEE	VD087165	CLUB	60.0	68.8	0.40	83.1	11.5	52.5	9.02
880456	BRIGAND/HILL81	VH087189	SWW	62.0	68.7	0.31	88.6	11.3	58.5	8.56
880457	VPM-1/MOISSON//HILL81	VH087204	SWW	62.5	70.2	0.33	89.2	11.7	56.3	7.69
880458	ID745318/LEWJAIN	VH087246	SWW	56.5	65.7	0.37	81.0	11.2	56.7	8.66
880459	LEWJAIN/WA6813	VH087253	SWW	63.0	69.3	0.33	88.1	10.5	57.1	9.05
880460	WA6813/AM79057	VH087263	SWW	61.0	68.3	0.37	84.3	10.9	57.2	8.81
880461	WA6813/LUKE/ELG/1783/LUK	<u>5/</u> VH087268	SWW	58.5	73.0	0.31	94.1	12.1	56.3	9.08
880462	AM79057/OR7956	VH087273	SWW	59.0	68.4	0.34	86.3	11.7	58.3	9.16
880463	WA6470/SEL2142//WA6910	VH087281	SWW	62.0	69.6	0.34	87.9	10.5	59.0	8.77
880464	VH80412/STEPHENS	VH087291	SWW	61.0	70.7	0.32	90.5	11.6	58.0	8.73
880465	VH82755, BR 81-4/DAWS	VH087319	SWW	58.0	64.9	0.31	84.1	11.6	59.2	8.84
880466	MALCOLM/3/WA6813	VH087329	SWW	59.0	69.6	0.37	85.9	11.7	60.1	8.94
880467	ORCW8114/WA6696	VH087332	SWW	58.0	67.4	0.37	83.2	12.3	59.2	8.66
880468	WA6819/DAWS	VH087359	SWW	62.5	69.6	0.34	87.8	11.4	59.9	8.87
880469	WA6819/DAWS	<u>6/</u> VH087361	SWW	63.0	72.0	0.34	90.9	10.5	56.4	9.06
880470	WA6910/OR797	VH087364	SWW	59.0	69.2	0.33	88.0	11.2	59.3	9.25
880471	WA6910/DAWS	VH087379	SWW	62.0	69.7	0.31	89.8	11.0	59.1	9.05
880472	WA6910/WA6912	VH087399	SWW	61.5	68.4	0.38	83.8	11.1	59.5	9.29
880473	WA6910/WA6912	<u>5/</u> VH087401	SWW	60.0	70.4	0.36	87.6	11.5	59.0	9.14
880474	CORVALLIS SEL	ORCW8724	SWW	59.0	68.2	0.37	84.1	11.3	58.0	8.95
880475	CORVALLIS SEL	OR830801	SWW	57.5	68.6	0.33	87.1	12.1	58.8	8.74
880476	WV047	<u>6/</u> VH087509	SWW	60.0	70.9	0.33	90.1	11.2	59.1	8.98
880477	WVP118	VH087512	SWW	61.0	68.3	0.31	88.0	9.6	57.8	8.62
880478	WVP163	VH087513	SWW	61.5	66.5	0.29	87.4	12.0	58.4	8.98
880479	WVP257	<u>6/</u> VH087515	SWW	61.5	70.2	0.34	88.6	11.7	60.9	9.11

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LABNUM	VARIETY	IDNO	CLASS	CODIC	MTYPE	RMKS
880450	WA6581/WA6146/ID721	VH087078	SWW	9.46	3M	
880451	ELMO/TYEE	VA087137	SWW	8.93	2M	
880452	STELLA/TYEE	VA087142	SWW	9.16	2M	
880453	WA6698/DAWS	VB087151	SWW	9.18	1M	
880454	WA6698/WA6581	VB087153	SWW	9.16	1M	
880455	BARBEE/TYEE	VD087165	CLUB	9.06	1M	
880456	BRIGAND/HILL81	VH087189	SWW	8.60	6M	
880457	VPM-1/MOTSSON//HILL81	VH087204	SWW	7.76	1M	P-CODI
880458	ID745318/LEWJAIN	VH087246	SWW	8.68	4M	P-FYELD, Q-MSCOR
880459	LEWJAIN/WA6813	VH087253	SWW	8.99	3M	
880460	WA6813/AM79057	VH087263	SWW	8.80	7M	
880461	WA6813/LUKE/ELG/1783/LUK	VH087268	SWW	9.20	2M	
880462	AM79057/OR7956	VH087273	SWW	9.24	2M	
880463	WA6470/SEL2142//WA6910	VH087281	SWW	8.72	4M	
880464	VH80412/STEPHENS	VH087291	SWW	8.79	4M	
880465	VM82755, BR 81-4/DAWS	VH087319	SWW	8.90	3M	P-FYELD
880466	MALCOLM/3/WA6813	VH087329	SWW	9.01	3M	
880467	ORCW8114/WA6696	VH087332	SWW	8.81	2M	Q-FYELD
880468	WA6819/DAWS	VH087359	SWW	8.92	2M	
880469	WA6819/DAWS	VH087361	SWW	9.01	2M	
880470	WA6910/OR797	VH087364	SWW	9.27	2M	
880471	WA6910/DAWS	VH087379	SWW	9.05	3M	
880472	WA6910/WA6912	VH087399	SWW	9.30	2M	
880473	WA6910/WA6912	VH087401	SWW	9.19	2M	
880474	CORVALLIS SEL	ORCW8724	SWW	8.98	4M	
880475	CORVALLIS SEL	OR830801	SWW	8.86	3M	
880476	WV047	VM087509	SWW	9.00	3M	
880477	WVP118	VM087512	SWW	8.47	5M	
880478	WVP163	VM087513	SWW	9.09	1M	Q-FYELD
880479	WVP257	VM087515	SWW	9.19	3M	

COMMENTS: This nursery's average protein of 11% was too high to allow most samples to perform well in the baking and rheological tests. Some samples performed well despite this high protein level. Some selections with longer, stronger mixograph types may possess dual purpose or hard wheat characteristics.

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PRELIMINARY HARD WHITE SPRING

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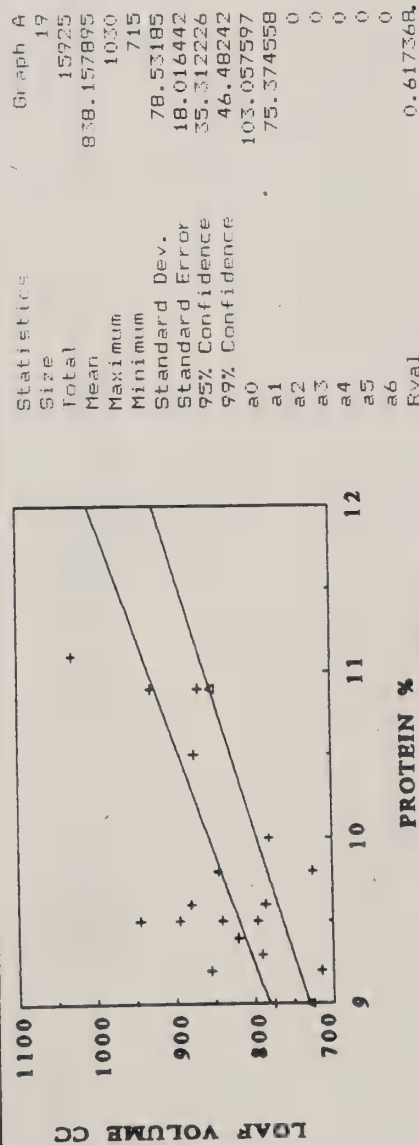
LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC
880480	WA006828/ID000190	K8705126	HWS	61.8	69.3	0.30	89.2	9.8	53.8
880481	WA006828/ID000190	K8705127	HWS	61.1	68.9	0.30	88.8	9.5	55.3
880482	WA006833/PAVON 76	6/ K8705167	SWS	62.9	66.3	0.26	90.0	9.6	55.0
880483	WA006833/PAVON 76	K8705169	HWS	60.7	67.3	0.27	88.4	10.9	54.0
880484	K82512/K82376	K8705215	HWS	62.8	70.1	0.29	90.3	9.6	55.7
880485	K82512/K82376	K8705217	HWS	63.4	66.6	0.25	88.9	9.5	55.1
880486	K7905663/K82385	K8705225	SWS	61.3	62.8	0.29	83.7	10.0	54.0
880487	K78512/K79299	K8705256	HWS	60.7	69.7	0.32	88.3	9.3	55.4
880488	K78512/K79299	K8705263	HWS	61.3	69.3	0.32	88.1	9.2	57.1
880489	K78512/K79299	K8705264	HWS	60.4	69.1	0.34	86.9	9.0	57.6
880490	K82355/K82373	K8705266	HWS	60.5	69.3	0.35	86.6	9.8	57.5
880491	K82355/K82373	K8705267	HWS	60.8	69.2	0.34	87.0	9.5	57.3
880492	K82366/K79300	6/ K8705294	HWS	61.5	68.4	0.28	89.0	10.5	56.0
880493	K82366/K79300	6/ K8705297	HWS	62.8	68.3	0.27	89.4	10.9	55.6
880494	K82385/K82407	K8705326	HWS	63.6	65.0	0.29	85.3	9.4	54.7
880495	KLASIC	NKF08022	HWS	61.8	71.6	0.32	90.4	11.1	57.7
880496	PENAWA	PI495916	SWS	61.6	66.1	0.32	85.6	9.0	55.3
880497	WAKANZ	PI506352	SWS	62.4	67.6	0.31	88.4	9.2	54.1
880498	WADUAL	WA007187	SWS	62.4	70.5	0.29	92.1	9.5	53.8

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LABNUM	VARIETY	IDNO	CLASS	MTYPE	BABS	BABSC	LVOL	LVOLC	BCRGR
880480	WA006828/ID000190	K8705126	HWS	2M	54.3	54.5	725	737	6
880481	WA006828/ID000190	K8705127	HWS	3M	54.5	55.0	795	826	6
880482	WA006833/PAVON 76	K8705167	SWS	3M	56.3	56.7	880	904	7
880483	WA006833/PAVON 76	K8705169	HWS	3M	56.6	55.7	930	874	6
880484	K82512/K82376	K8705215	HWS	3M	57.0	57.4	785	810	8
880485	K82512/K82376	K8705217	HWS	4M	56.3	56.8	895	926	4
880486	K7905663/K82385	K8705225	SWS	5M	55.7	55.7	780	780	6
880487	K78512/K79299	K8705256	HWS	4M	56.4	57.1	790	813	8
880488	K78512/K79299	K8705263	HWS	7M	58.0	58.8	715	765	6
880489	K78512/K79299	K8705264	HWS	7M	58.3	59.3	775	837	6
880490	K82355/K82373	K8705266	HWS	7M	59.0	59.2	845	857	6
880491	K82355/K82373	K8705267	HWS	7M	59.0	59.5	840	871	6
880492	K82366/K79300	K8705294	HWS	3M	58.2	57.7	875	844	4
880493	K82366/K79300	K8705297	HWS	3M	58.2	57.3	870	814	4
880494	K82385/K82407	K8705326	HWS	4M	55.8	56.4	820	857	6
880495	KLASIC	NKF08022	HWS	8M	60.5	59.4	1030	962	3
880496	PENAWA	PI495916	SWS	2M	55.0	56.0	775	835	9
880497	WAKANZ	PI506352	SWS	2M	54.0	54.8	855	903	8
880498	WADUAL	WA007187	SWS	3M	55.0	55.5	945	975	3



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PRELIMINARY HARD WHITE SPRING

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LABNUM	VARIETY	IDNO	CLASS	COOI	COOIC	RNKS
880480	WA006828/ID000190	K8705126	HWS	8.64	8.62 P-LVOL, BCRGR	
880481	WA006828/ID000190	K8705127	HWS	9.16	9.12 Q-BCRGR	
880482	WA006833/PAVON 76	K8705167	SWS	9.17	9.13 Q-FYELD (Soft)	
880483	WA006833/PAVON 76	K8705169	HWS	8.73	8.80 Q-BCRGR	
880484	K82512/K82376	K8705215	HWS	8.52	8.49 P-BCRGR	
880485	K82512/K82376	K8705217	HWS	9.04	9.00 Q-FYELD, BCRGR	
880486	K7905663/K82385	K8705225	SWS	9.23	9.23 P-FYELD	
880487	K78512/K79299	K8705256	HWS	8.46	8.41 P-LVOL, BCRGR	
880488	K78512/K79299	K8705263	HWS	8.09	8.02 Q-BCRGR	
880489	K78512/K79299	K8705264	HWS	8.32	8.24 Q-BCRGR	
880490	K82355/K82373	K8705266	HWS	8.26	8.25 Q-BCRGR	
880491	K82355/K82373	K8705267	HWS	8.31	8.27 Q-BCRGR	
880492	K82366/K79300	K8705294	HWS	9.18	9.22 Good CODI	
880493	K82366/K79300	K8705297	HWS	9.04	9.11 Good CODI	
880494	K82385/K82407	K8705326	HWS	9.19	9.14 P-FYELD	
880495	KLASIC	NKF08022	HWS	8.51	8.60	
880496	PENAWA	PI495916	SWS	9.51	9.40	
880497	WAKANZ	PI506352	SWS	9.21	9.12	
880498	WADUAL	WA007187	SWS	9.55	9.49	

COMMENTS: Several of these appear to have adequate loaf volume for their protein, but were poor type crumb grains.
K8705294 and 297 appear to have some dual purpose possibilities. K8705167 is soft endosperm. See
plot of loaf volume/protein on previous page.

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DUAL PURPOSE

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LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
880499	K74135/POTAM 70 S.15	WA007186	HWS	63.1	69.4	0.26	85.5	8.9	62.1	6L
880500	K74135/POTAM 70 S.24	WA007186	SWS	62.3	71.7	0.28	84.7	10.1	60.0	6L
880501	K74135/POTAM 70 S.25	WA007186	SWS	62.5	69.5	0.26	85.2	9.2	60.0	6M
880502	K74135/POTAM 70 S.30	6/WA007186	SWS	62.5	72.3	0.28	87.7	9.0	60.2	6L
880503	K74135/POTAM 70 S.34	WA007186	SWS	62.5	72.1	0.29	86.9	9.0	58.3	5M
880504	K74135/POTAM 70 S.35	WA007186	SWS	63.0	72.4	0.28	88.1	9.3	61.3	6L
880505	K74135/POTAM 70 S.45	6/WA007186	SWS	62.7	72.8	0.29	87.0	9.4	58.3	6L
880506	K74135/POTAM 70 S.48	WA007186	SWS	62.5	72.0	0.27	87.3	9.1	61.1	6L
880507	WADUAL	WA007187	SWS	63.6	71.3	0.27	85.6	9.0	58.3	6L
880508	K74182/POTAM 70 S.04	6/WA007187	SWS	63.2	71.4	0.26	86.1	9.6	58.3	5L
880509	K74182/POTAM 70 S.05	5/WA007187	SWS	63.7	69.6	0.25	84.7	10.3	56.8	4M
880510	K74182/POTAM 70 S.06	6/WA007187	SWS	63.2	71.5	0.24	89.6	9.7	58.0	6L
880511	K74182/POTAM 70 S.07	5/WA007187	SWS	63.7	71.0	0.24	87.7	10.6	57.6	4M
880512	K74182/POTAM 70 S.09	WA007187	SWS	63.5	72.1	0.28	86.8	10.0	58.4	5M
880513	K74182/POTAM 70 S.12	WA007187	SWS	63.7	70.1	0.24	85.3	10.1	56.5	3M
880514	K74182/POTAM 70 S.15	6/WA007187	SWS	63.4	71.2	0.26	85.9	9.5	58.6	6L
880515	K74182/POTAM 70 S.16	5/WA007187	SWS	63.1	71.4	0.26	86.1	10.1	56.6	3M
880516	K74182/POTAM 70 S.17	5/WA007187	SWS	63.0	71.8	0.27	86.5	9.7	57.8	4M
880517	K74182/POTAM 70 S.18	6/WA007187	SWS	62.9	72.2	0.32	84.8	9.6	56.8	6L
880518	K74182/POTAM 70 S.20	6/WA007187	SWS	63.2	71.2	0.28	85.1	9.4	59.1	6L
880519	K74182/POTAM 70 S.21	WA007187	SWS	63.8	73.2	0.29	88.7	8.6	56.9	4L
880520	K74182/POTAM 70 S.22	6/WA007187	SWS	63.4	71.8	0.29	85.4	9.8	57.8	5M
880521	K74182/POTAM 70 S.23	6/WA007187	SWS	62.9	70.5	0.28	83.6	9.5	57.7	5M
880522	K74182/POTAM 70 S.24	WA007187	SWS	62.8	71.8	0.29	85.4	9.4	58.5	5M
880523	K74182/POTAM 70 S.28	WA007187	SWS	63.6	70.1	0.28	83.6	9.6	58.5	6M
880524	K74182/POTAM 70 S.23	6/WA007187	SWS	63.7	70.4	0.27	84.7	9.8	59.3	6M
880525	K74182/POTAM 70 S.38	WA007187	SWS	62.9	68.7	0.27	81.1	9.5	57.5	4M
880526	K74182/POTAM 70 S.39	6/WA007187	SWS	63.6	71.5	0.27	86.7	9.4	58.6	6L
880527	K74182/POTAM 70 S.40	6/WA007187	SWS	63.5	71.7	0.26	87.0	9.8	57.6	4M
880528	K74182/POTAM 70 S.41	6/WA007187	SWS	61.6	71.7	0.32	85.1	9.2	58.2	6L

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 9% Protein

4/ Observed Values Corrected to 9% Protein

5/ Particularly Promising Overall Quality Characteristics
6/ Promising Overall Quality Characteristics

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

DUAL PURPOSE

NURSCO 18

PULLMAN, WA

C.F. KONZAK

LABNUM	VARIETY	IDNO	CLASS	CODI	CODIC 4/	CAVOL	SCSOR	WTIN	NOSCOR
880499	K74135/POTAM 70 S.15	WA007186	HWS	8.59	8.50	1280	74.0	334	73
880500	K74135/POTAM 70 S.24	WA007186	SWS	9.09	9.10	1260	74.0	336	76
880501	K74135/POTAM 70 S.25	WA007186	SWS	8.73	8.64	1250	71.0	344	76
880502	K74135/POTAM 70 S.30	WA007186	SWS	9.21	9.10	1240	70.0	343	77
880503	K74135/POTAM 70 S.34	WA007186	SWS	8.67	8.56	1210	70.0	333	73
880504	K74135/POTAM 70 S.35	WA007186	SWS	8.75	8.67	1265	75.0	327	75
880505	K74135/POTAM 70 S.45	WA007186	SWS	9.19	9.12	1270	75.0	327	74
880506	K74135/POTAM 70 S.48	WA007186	SWS	8.79	8.69	1260	74.0	317	72
880507	WADUAL	WA007187	SWS	9.06	8.95	1295	76.0	321	73
880508	K74182/POTAM 70 S.04	WA007187	SWS	9.10	9.06	1285	75.0	323	75
880509	K74182/POTAM 70 S.05	WA007187	SWS	8.94	8.97	1340	79.0	337	74
880510	K74182/POTAM 70 S.06	WA007187	SWS	9.00	8.97	1325	76.0	328	73
880511	K74182/POTAM 70 S.07	WA007187	SWS	9.23	9.29	1320	77.0	333	74
880512	K74182/POTAM 70 S.09	WA007187	SWS	9.06	9.06	1285	75.0	336	72
880513	K74182/POTAM 70 S.12	WA007187	SWS	9.09	9.10	1285	75.0	334	73
880514	K74182/POTAM 70 S.15	WA007187	SWS	8.89	8.83	1330	80.0	309	72
880515	K74182/POTAM 70 S.16	WA007187	SWS	8.85	8.86	1325	81.0	338	74
880516	K74182/POTAM 70 S.17	WA007187	SWS	9.00	8.97	1320	80.0	362	76
880517	K74182/POTAM 70 S.18	WA007187	SWS	9.08	9.03	1315	79.0	324	73
880518	K74182/POTAM 70 S.20	WA007187	SWS	8.86	8.80	1285	75.0	337	74
880519	K74182/POTAM 70 S.21	WA007187	SWS	9.12	8.97	1340	81.0	329	74
880520	K74182/POTAM 70 S.22	WA007187	SWS	9.31	9.29	1315	78.0	311	73
880521	K74182/POTAM 70 S.23	WA007187	SWS	9.10	9.05	1350	79.0	329	74
880522	K74182/POTAM 70 S.24	WA007187	SWS	8.84	8.77	1320	77.0	328	74
880523	K74182/POTAM 70 S.28	WA007187	SWS	8.99	8.94	1280	77.0	326	74
880524	K74182/POTAM 70 S.23	WA007187	SWS	8.79	8.77	1340	80.0	333	75
880525	K74182/POTAM 70 S.38	WA007187	SWS	8.77	8.72	1340	80.0	321	74
880526	K74182/POTAM 70 S.39	WA007187	SWS	8.90	8.83	1345	80.0	335	73
880527	K74182/POTAM 70 S.40	WA007187	SWS	9.05	9.03	1290	76.0	333	74
880528	K74182/POTAM 70 S.41	WA007187	SWS	8.95	8.86	1290	77.0	317	73

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

DUAL PURPOSE

NURSCO 18

PULLMAN, WA

C.F. KONZAK

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC 3/	MTIME	LVOL	LVOLC 4/	BCRGR	RMKS
880499	K74135/POTAM 70 S.15	WA007186	HWS	61.7	62.8	4.8	895	963	3	P-CODI, Q-NOSCO, FYELD
880500	K74135/POTAM 70 S.24	WA007186	SWS	59.8	59.7	5.3	870	864	4	Q-BCRGR
880501	K74135/POTAM 70 S.25	WA007186	SWS	58.9	59.7	4.3	855	903	3	Q-CODI
880502	K74135/POTAM 70 S.30	WA007186	SWS	58.9	59.9	4.3	865	925	3	
880503	K74135/POTAM 70 S.34	WA007186	SWS	57.0	58.0	4.0	875	935	3	Q-CODI
880504	K74135/POTAM 70 S.35	WA007186	SWS	60.3	61.0	4.5	865	907	4	Q-BCRGR
880505	K74135/POTAM 70 S.45	WA007186	SWS	57.4	58.0	3.8	880	916	5	Q-BCRGR
880506	K74135/POTAM 70 S.48	WA007186	SWS	59.9	60.8	4.7	850	904	4	Q-CODI, NOSCOR
880507	WADUAL	WA007187	SWS	56.5	57.5	3.7	880	940	4	
880508	K74182/POTAM 70 S.04	WA007187	SWS	57.1	57.5	3.6	915	939	3	> Wadual
880509	K74182/POTAM 70 S.05	WA007187	SWS	56.3	56.0	3.1	970	952	2	>> Wadual
880510	K74182/POTAM 70 S.06	WA007187	SWS	56.4	56.7	4.0	950	968	3	> Wadual
880511	K74182/POTAM 70 S.07	WA007187	SWS	56.9	56.3	3.2	955	919	3	>> Wadual
880512	K74182/POTAM 70 S.09	WA007187	SWS	57.6	57.6	3.4	925	925	3	< Wadual
880513	K74182/POTAM 70 S.12	WA007187	SWS	55.3	55.2	2.5	905	899	3	< Wadual
880514	K74182/POTAM 70 S.15	WA007187	SWS	57.3	57.8	3.5	910	940	3	= Wadual
880515	K74182/POTAM 70 S.16	WA007187	SWS	55.9	55.8	3.1	965	959	3	>> Wadual
880516	K74182/POTAM 70 S.17	WA007187	SWS	56.7	57.0	3.9	950	968	3	>> Wadual
880517	K74182/POTAM 70 S.18	WA007187	SWS	55.6	56.0	4.1	925	949	3	= Wadual
880518	K74182/POTAM 70 S.20	WA007187	SWS	57.7	58.3	4.4	910	946	4	= Wadual
880519	K74182/POTAM 70 S.21	WA007187	SWS	53.7	55.1	3.3	810	894	6	< Wadual
880520	K74182/POTAM 70 S.22	WA007187	SWS	55.8	56.0	3.1	925	937	4	= Wadual
880521	K74182/POTAM 70 S.23	WA007187	SWS	56.4	56.9	4.0	910	940	3	= Wadual
880522	K74182/POTAM 70 S.24	WA007187	SWS	57.1	57.7	3.9	915	951	6	< Wadual
880523	K74182/POTAM 70 S.28	WA007187	SWS	57.3	57.7	4.0	930	954	3	< Wadual
880524	K74182/POTAM 70 S.23	WA007187	SWS	57.3	57.5	4.2	925	937	4	= Wadual
880525	K74182/POTAM 70 S.38	WA007187	SWS	56.2	56.7	4.0	905	935	2	P-FYELD
880526	K74182/POTAM 70 S.39	WA007187	SWS	57.2	57.8	4.4	925	961	3	>> Wadual
880527	K74182/POTAM 70 S.40	WA007187	SWS	56.6	56.8	3.7	905	917	2	= Wadual
880528	K74182/POTAM 70 S.41	WA007187	SWS	56.6	57.4	4.0	875	923	2	= Wadual

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WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

DUAL PURPOSE

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PULLMAN, WA

NURSCO 18

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880529	K74182/POTAM 70 S.47	<u>6</u> /WA007187	SWS	61.8	72.2	0.29	86.5	9.4	58.5	4M
880530	K74182/POTAM 70 S.51	<u>6</u> /WA007187	SWS	62.8	70.3	0.28	83.9	9.7	59.7	4M
880531	K74182/POTAM 70 S.52	<u>6</u> /WA007187	SWS	63.7	70.3	0.26	85.7	10.0	59.9	6M
880532	K74182/POTAM 70 S.54	<u>6</u> /WA007187	SWS	64.4	71.6	0.26	86.7	9.8	58.8	4M
880533	K74182/POTAM 70 S.55	<u>6</u> /WA007187	SWS	62.7	72.0	0.26	87.4	9.4	60.2	5M
880534	K74182/POTAM 70 S.58	<u>5</u> /WA007187	SWS	63.3	71.3	0.25	87.8	9.5	58.5	4M
880535	K74182/POTAM 70 S.60	<u>5</u> /WA007187	SWS	63.9	70.3	0.26	85.9	9.8	58.8	5M
880536	PENAWAWA	PI495916	SWS	62.4	69.6	0.27	84.7	9.1	55.5	2M
880537	K74322/POTAM 70 S.10	WA007188	SWS	61.4	72.0	0.27	87.3	9.0	56.5	2M
880538	K74322/POTAM 70 S.19	WA007188	SWS	62.8	71.8	0.32	85.4	9.2	58.2	3M
880539	K74322/POTAM 70 S.22	WA007188	SWS	62.1	70.0	0.27	82.6	9.5	57.3	5M
880540	K74322/POTAM 70 S.28	<u>6</u> /WA007188	SWS	61.9	70.8	0.27	84.2	9.9	57.1	3M
880541	K74322/POTAM 70 S.29	WA007188	SWS	61.5	70.5	0.26	84.9	9.8	59.8	3M
880542	K74322/POTAM 70 S.31	WA007188	SWS	61.8	71.3	0.25	86.9	9.7	59.9	3M
880543	K74322/POTAM 70 S.36	WA007188	SWS	60.9	71.3	0.28	86.3	10.3	59.2	5M
880544	K74322/POTAM 70 S.42	WA007188	SWS	60.5	70.5	0.27	84.8	9.8	58.4	3M
880545	K74322/POTAM 70 S.50	<u>6</u> /WA007188	SWS	61.1	71.1	0.28	85.5	9.7	60.7	4M
880546	K74322/POTAM 70 S.56	<u>6</u> /WA007188	SWS	60.0	71.4	0.33	84.2	9.8	60.4	6M
880547	CORVALLIS DUAL PURPOSE LINE	<u>6</u> /	SWS	61.1	69.3	0.34	80.7	9.3	57.5	6M

USDA, ARS
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PULLMAN, WA.

DUAL PURPOSE

NURSCO 18

PULLMAN, WA

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LABNUM	VARIETY	IDNO	CLASS	COOI	COOIC	CAVOL	SCSOR	WTIN	NOSCOR
880529	K74182/POTAM 70 S.47	WA007187	SWS	9.01	8.95	1320	77.0	335	74
880530	K74182/POTAM 70 S.51	WA007187	SWS	8.98	8.94	1330	78.0	336	74
880531	K74182/POTAM 70 S.52	WA007187	SWS	9.10	9.10	1325	75.0	340	73
880532	K74182/POTAM 70 S.54	WA007187	SWS	8.92	8.90	1330	77.0	341	74
880533	K74182/POTAM 70 S.55	WA007187	SWS	9.01	8.95	1300	74.0	345	75
880534	K74182/POTAM 70 S.58	WA007187	SWS	9.04	8.98	1320	78.0	342	74
880535	K74182/POTAM 70 S.60	WA007187	SWS	9.02	9.00	1335	79.0	334	74
880536	PENAWAWA	P1495916	SWS	9.37	9.28	1270	74.0	347	77
880537	K74322/POTAM 70 S.10	WA007188	SWS	8.92	8.81	1235	71.0	329	74
880538	K74322/POTAM 70 S.19	WA007188	SWS	8.75	8.66	1255	71.0	327	73
880539	K74322/POTAM 70 S.22	WA007188	SWS	8.91	8.86	1305	77.0	332	73
880540	K74322/POTAM 70 S.28	WA007188	SWS	8.81	8.80	1320	78.0	333	73
880541	K74322/POTAM 70 S.29	WA007188	SWS	8.80	8.78	1285	74.0	321	74
880542	K74322/POTAM 70 S.31	WA007188	SWS			1285	74.0		
880543	K74322/POTAM 70 S.36	WA007188	SWS	8.45	8.48	1280	75.0	340	73
880544	K74322/POTAM 70 S.42	WA007188	SWS	8.75	8.73	1265	73.0	334	74
880545	K74322/POTAM 70 S.50	WA007188	SWS	8.66	8.63	1315	77.0	335	74
880546	K74322/POTAM 70 S.56	WA007188	SWS	8.89	8.87	1300	75.0	345	75
880547	CORVALLIS DUAL PURPOSE LINE	.	SWS	8.85	8.77	1305	78.0	333	79

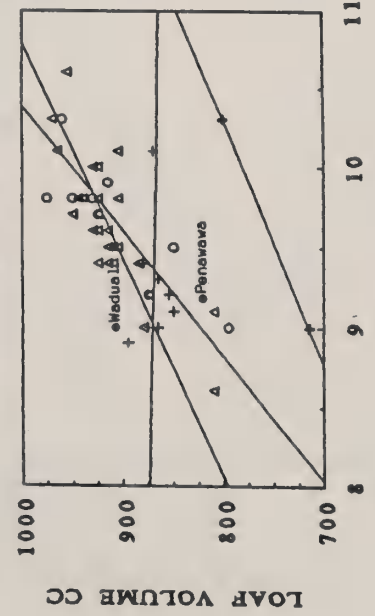
C.F. KONZAK

PULLMAN, WA

NURSCO 18

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880529	K74182/POTAM 70 S.47	WA007187	SWS	57.1	57.7	3.7	885	921	4	= Wadual
880530	K74182/POTAM 70 S.51	WA007187	SWS	57.6	57.9	3.5	925	943	2	Q-FYELD=Wadua;
880531	K74182/POTAM 70 S.52	WA007187	SWS	59.1	59.1	4.2	930	930	2	= Wadual
880532	K74182/POTAM 70 S.54	WA007187	SWS	57.8	58.0	3.6	945	957	2	= Wadual
880533	K74182/POTAM 70 S.55	WA007187	SWS	57.8	58.4	4.0	915	951	3	= Wadual
880534	K74182/POTAM 70 S.58	WA007187	SWS	57.2	57.7	3.6	915	945	2	= Wadual
880535	K74182/POTAM 70 S.60	WA007187	SWS	56.8	57.0	3.3	940	952	3	= Wadual
880536	PENAWAWA	P1495916	SWS	52.8	53.7	1.7	810	864	8	Q-Breadmaking
880537	K74322/POTAM 70 S.10	WA007188	SWS	54.7	55.7	2.5	795	855	7	P-Breadmaking
880538	K74322/POTAM 70 S.19	WA007188	SWS	56.1	56.9	2.6	875	923	5	Q-CODI,BCRGR
880539	K74322/POTAM 70 S.22	WA007188	SWS	55.5	56.0	3.1	850	880	5	Q-MSCOR,BCRGR
880540	K74322/POTAM 70 S.28	WA007188	SWS	55.7	55.8	3.0	915	921	2	
880541	K74322/POTAM 70 S.29	WA007188	SWS	58.3	58.5	3.5	930	942	4	mixed
880542	K74322/POTAM 70 S.31	WA007188	SWS	Mixed with S.29		after Milling				mixed
880543	K74322/POTAM 70 S.36	WA007188	SWS	58.2	57.9	3.1	960	942	2	P-CODI
880544	K74322/POTAM 70 S.42	WA007188	SWS	55.9	56.1	2.8	950	962	4	Q-CODI,SCSOR
880545	K74322/POTAM 70 S.50	WA007188	SWS	59.1	59.4	3.5	925	943	3	Q-CODI
880546	K74322/POTAM 70 S.56	WA007188	SWS	58.9	59.1	3.5	975	987	2	
880547	CORVALLIS DUAL PURPOSE LINE	.	SWS	55.5	56.2	3.4	1035	1077	2	Q-FYELD

LOAF VOLUME VS PROTEIN
DUAL PURPOSE SELECTIONS



COMMENTS: Only one or two of the WA7186 selections have good overall dual purpose properties. Most all of the 7187 selections were equal to or better than Wadual in both pastry and bread making quality. The WA7188 appear strongest in bread making and poorer in cookie baking than the other two selections. Plots of loaf volume vs protein show that all of these (including Penawawa) are higher in loaf volume than expected for bread wheat cultivars. Wadual was used as the reference. On the other hand, Penawawa was larger in cookie spread than expected which makes some of the cookie diameters appear low. Within the WA7187 selections there is a sizable range of quality for both pastry and bread making quality.

PROTEIN %
+ 7186 Δ 7187 ○ 7188 + EXPEC

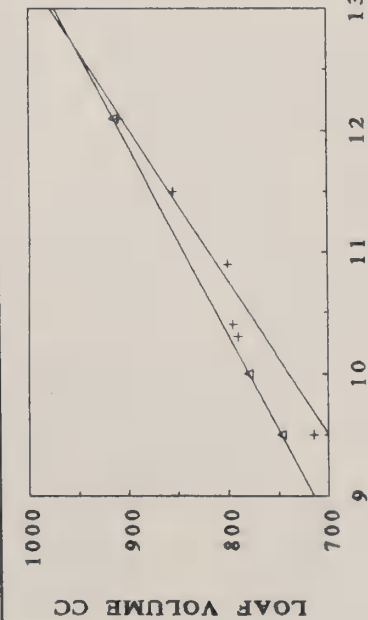
M.F. KOLDING

HERMISTON, OR

NURSCO 19

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880548 NEELEY		CI017860	HRW	63.8	69.3	0.39	80.9	12.1	63.5	4H
880549 WANSER		CI013844	HRW	62.9	71.8	0.42	84.2	11.5	64.1	4H
880550 UT1549-99			HRW	60.8	67.6	0.40	77.8	10.3	65.5	4H
880551 WKP368-404			HRW	62.1	66.8	0.43	75.2	10.0	62.0	2M
880552 FW81363 Y6054			HRW	58.4	71.1	0.39	85.2	10.4	60.7	3M
880553 FW81363 Y6055			HRW	57.3	70.6	0.39	83.8	10.9	60.0	3M
880554 FW83242 H6004			SRW	62.7	65.8	0.45	72.1	9.5	60.8	3M

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880548 NEELEY		CI017860	HRW	66.3	65.2	3.2	910	842	3	
880549 WANSER		CI013844	HRW	66.3	65.8	3.2	855	824	3	
880550 UT1549-99			HRW	66.5	67.2	3.6	790	833	8	P-FYELD, BCRGR
880551 WKP368-404			HRW	62.2	63.2	1.8	685	747	9	P-FYELD, MTIME, LVOL, BCRGR
880552 FW81363 Y6054			HRW	61.8	62.4	2.6	795	832	8	P-MTIME, BCRGR
880553 FW81363 Y6055			HRW	60.6	60.7	2.0	800	806	8	P-MTIME, BCRGR
880554 FW83242 H6004			SRW	61.0	62.5	2.3	715	805	9	P-FYELD, MTIME, BCRGR



COMMENTS: These selections of HRW wheats fail to be acceptable in milling and/or baking quality. Most were very short in mixing time and associated poor bread crumb structure. Loaf volume was near expected level for the protein content.

PROTEIN %
+ EXP CROSSES Δ EXPECTED

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PULLMAN, WA.

SOFT WHITE WINTER WHEAT

PAGE 1

M.F. KOLDING

HERMISTON, OR

NURSCO 20

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880555 MALCOLM		ORCR8113	SNW	60.2	71.0	0.47	77.8	9.2	54.9	2M
880556 HILL 81		CI017954	SNW	61.1	73.5	0.47	84.2	9.6	54.4	2M
880557 FW301			SNW	60.4	72.9	0.47	78.8	9.0	54.6	2M
880558 FW75336			SNW	60.0	67.6	0.47	70.5	8.6	56.0	2M
880559 FW82178-85015			SNW	62.9	68.8	0.45	73.7	9.0	55.8	2M
880560 FW82212 B5001			SNW	61.4	69.7	0.47	73.3	9.5	54.5	2M
880561 FW82251 B6003			6/SNW	59.9	72.5	0.45	81.2	9.0	54.6	3L
880562 FW83115-B801			SNW	60.6	69.2	0.47	72.0	9.1	56.1	2M
880563 FW83115-B802			SNW	60.4	67.3	0.46	70.7	9.4	57.0	3M
880564 FW83116-B801			SNW	60.5	68.0	0.47	70.8	9.3	56.5	3M
880565 FW83126-B6051			SRW	61.5	67.9	0.49	70.4	8.5	55.5	2M
880566 FW83151-B801			SNW	60.8	70.2	0.50	74.1	8.9	55.8	3M
880567 FW84111			SNW	55.8	69.1	0.50	71.3	10.9	58.8	3M
880568 FW83115			SNW	61.5	73.4	0.44	82.8	10.6	57.3	2M

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HERMISTON, OR

M. F. KOLDING

LABNUM	VARIETY	IDNO	CLASS	CODI	CODIC	CAVOL	SCSOR	WTIN	NOSCOR	RMKS
880555 MALCOLM		ORCR8113	SWW	8.42	8.45	1205	66.0	310	70	P-MSCOR, CODI, SCSOR, NOSCOR
880556 HILL 81		CI017954	SWW	8.68	8.74	1280	77.0	348	74	
880557 FW301			SWW	8.94	8.94	1235	73.0	347	75	P-MSCOR, Q-SCSOR
880558 FW75336			SWW	8.59	8.54	1245	74.0	324	72	P-FYELD, CODI, NOSCOR
880559 FW82178-85015			SWW	8.60	8.60	1235	75.0	330	72	P-FYELD, CODI, NOSCOR
880560 FW82212 B5001			SWW	8.69	8.74	1220	73.0	338	72	P-MSCOR, SCSOR, NOSCOR
880561 FW82251 B6003			SWW	9.31	9.31	1355	81.0	343	74	
880562 FW83115-B801			SWW	8.27	8.29	1235	69.0	339	73	P-MSCOR, CODI
880563 FW83115-B802			SWW	8.30	8.34	1230	74.0	334	73	P-MSCOR, CODI
880564 FW83116-B801			SWW	8.50	8.53	1240	74.0	348	73	P-MSCOR, CODI
880565 FW83126-B6051			SRW	8.14	8.08	1095	60.0	320	72	P-MSCOR, CODI, SCSOR, NOSCOR
880566 FW83151-B801			SWW	8.35	8.34	1285	74.0	325	71	P-MSCOR, CODI, NOSCOR
880567 FW84111			SWW	8.27	8.48	1295	73.0	324	68	P-MSCOR, CODI, NOSCOR
880568 FW83115			SWW	8.40	8.58	1280	73.0	336	73	Q-CODI, SCSOR, NOSCOR

COMMENTS: The check variety Malcolm was far from expected performance in milling and all bake tests. All were quite low in flour yield and high in ash. Most were poor in cookie spread. Selection FW82251 B6003 appears the exception, it is excellent in baking quality and fair (relatively) in milling quality. See "Remarks".

E. DONALDSON

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LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
						1/		1/	3/	
880569	PI503552/WA6515	KN001001	HRS	62.4	71.9	0.39	87.2	9.2	63.0	8M
880570	PI503552/WA6515 1-16	KN001002	HRS	62.5	72.0	0.33	90.4	10.3	60.9	6M
880571	PI503552/WA6515 2-11	KN001003	HRS	63.2	74.1	0.36	91.0	10.5	61.4	4M
880572	PI053552/WA6515 3-07	KN001004	HRS	62.3	72.2	0.38	88.0	10.3	63.1	8M
880573	PI503552/WA6515 3-10	KN001005	HRS	62.9	72.0	0.36	88.9	10.6	61.4	8M
880574	PI503552/WA6515 4-08	KN001006	HRS	62.9	73.0	0.32	92.0	10.7	60.8	8M
880575	PI503552/WA6515 4-09	KN001007	HRS	62.2	72.1	0.37	88.5	10.7	60.2	8M
880576	PI503552/WA6515 6-01	KN001008	HRS	62.1	71.0	0.36	87.8	9.8	62.6	8M
880577	PI503552/WA6515 6-03	KN001009	HRS	61.8	71.1	0.32	90.0	10.9	61.1	7M
880578	PI503552/WA6515 6-04	KN001010	HRS	62.6	70.9	0.36	87.7	10.8	60.6	7M
880579	PI503552/WA6515 6-05	KN001011	HRS	63.0	71.2	0.37	87.5	10.2	61.7	6M
880580	PI503552/WA6515 6-07	KN001012	HRS	63.1	71.6	0.36	88.4	11.0	62.5	8M
880581	PI503552/WA6515 6-12	KN001013	HRS	63.0	71.6	0.37	87.9	10.7	61.8	6M
880582	BATUM	PI495013	HRS	63.4	74.8	0.28	95.9	10.6	61.9	2H
880583	PI503552/CI13438/BURT 3	KN001015	HRS	61.3	59.4	0.34	76.8	10.5	57.3	8M
880584	PI503552/CI13438/BURT	KN001016	HRS	63.2	72.1	0.30	92.1	10.0	57.3	8M
880585	PI503552/WA6515 02	KN001017	HRS	63.3	72.2	0.36	89.1	10.7	59.9	4M
880586	PI503552/KS745820 81-1-0	KN001018	HRS	62.5	69.4	0.38	85.2	11.2	59.5	2H
880587	PI503552/KS745820 81-1-0	KN001019	HRS	62.9	72.7	0.30	92.7	11.9	60.4	3H
880588	PI503552/KS745820 81-07	KN001020	HRS	62.3	69.1	0.31	88.5	11.2	61.4	3H
880589	HATTON	CI017772	HRS	65.6	73.1	0.31	92.6	11.6	60.6	3H
880590	PI503552/KS745820 81-10	KN001022	HRS	62.8	71.0	0.37	87.4	11.2	58.5	3M
880591	PI503552/KS745820 81-13	KN001023	HRS	62.4	69.8	0.32	88.7	11.3	59.2	4M
880592	PI503552/KS745820 81-14	KN001024	HRS	62.9	69.6	0.32	88.5	11.5	59.0	4M
880593	PI503552/KS745820 81-19	KN001025	HRS	62.4	73.4	0.31	93.0	11.2	59.6	4M
880594	PI503552/KS745820 81-21	KN001026	HRS	62.6	70.8	0.27	92.3	11.6	60.5	3H
880595	PI503552/KS745820 81-22	KN001027	HRS	63.6	73.7	0.36	90.7	11.4	61.0	3H
880596	PI503552/KS745820 81-26	KN001028	HRS	61.9	63.4	0.35	80.5	11.1	58.5	4M
880597	PI503552/KS745820 81-32	KN001029	HRS	63.1	73.3	0.34	91.3	12.3	61.1	3H
880598	PI503552/KS745820 81-33	KN001030	HRS	63.2	73.2	0.32	92.2	12.1	59.4	4M

1/ Observed values corrected to 14% moisture basis.

3/ Absorption at 14% moisture corrected to 11% protein.

4/ Observed values corrected to 11% protein.

5/ Particularly promising overall quality characteristics.

6/ Promising overall quality characteristics.

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LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					3/			4/		
880569	PI503552/WA6515	KN001001	HRS	61.9	63.7	5.0	750	862	7	Q-P-BCRGR
880570	PI503552/WA6515 1-16	KN001002	HRS	60.9	61.6	4.0	780	823	7	P-LVOL, Q-P-BCRGR
880571	PI503552/WA6515 2-11	KN001003	HRS	61.6	62.1	2.6	830	861	6	Q-BCRGR
880572	PI503552/WA6515 3-07	KN001004	HRS	63.1	63.8	5.2	755	798	7	P-LVOL, Q-P-BCRGR
880573	PI503552/WA6515 3-10	KN001005	HRS	61.7	62.1	5.7	745	770	8	P-LVOL, P-BCRGR
880574	PI503552/WA6515 4-08	KN001006	HRS	61.2	61.5	5.2	765	784	7	P-LVOL, Q-P-BCRGR
880575	PI503552/WA6515 4-09	KN001007	HRS	60.6	60.9	5.3	720	739	8	P-LVOL, P-BCRGR
880576	PI503552/WA6515 6-01	KN001008	HRS	62.1	63.3	5.2	740	814	8	P-LVOL, P-BCRGR
880577	PI503552/WA6515 6-03	KN001009	HRS	61.7	61.8	3.2	780	786	6	P-LVOL, Q-BCRGR
880578	PI503552/WA6515 6-04	KN001010	HRS	61.1	61.3	3.4	775	787	7	P-LVOL, Q-P-BCRGR
880579	PI503552/WA6515 6-05	KN001011	HRS	61.6	62.4	3.6	775	825	6	P-LVOL, Q-BCRGR
880580	PI503552/WA6515 6-07	KN001012	HRS	63.2	63.2	5.5	775	775	6	P-LVOL, Q-BCRGR
880581	PI503552/WA6515 6-12	KN001013	HRS	62.2	62.5	3.5	820	839	5	Q-LVOL, Q-BCRGR
880582	BATUM	PI495013	HRS	62.2	62.6	1.7	865	890	5	
880583	PI503552/CI13438/BURT 3	KN001015	HRS	57.5	58.0	4.4	850	881	6	VP-FYELD, Q-BCRGR
880584	PI503552/CI13438/BURT	KN001016	HRS	57.0	58.0	5.2	660	722	6	P-LVOL, Q-BCRGR
880585	PI503552/WA6515 02	KN001017	HRS	60.3	60.6	2.4	840	859	5	Q-BCRGR
880586	PI503552/KS745820 81-1-0	KN001018	HRS	60.4	60.2	2.1	825	813	6	P-FYELD, P-LVOL, Q-BCRGR
880587	PI503552/KS745820 81-1-0	KN001019	HRS	62.0	61.1	3.2	835	779	6	P-LVOL, Q-BCRGR
880588	PI503552/KS745820 81-07	KN001020	HRS	62.3	62.1	2.3	870	858	5	P-FYELD, Q-BCRGR
880589	HATTON	CI017772	HRS	61.9	61.3	2.4	875	838	5	
880590	PI503552/KS745820 81-10	KN001022	HRS	59.4	59.2	2.0	825	813	6	Q-FYELD, P-LVOL, Q-BCRGR
880591	PI503552/KS745820 81-13	KN001023	HRS	59.7	59.4	3.5	840	821	4	P-FYELD, P-LVOL
880592	PI503552/KS745820 81-14	KN001024	HRS	59.7	59.2	2.6	810	779	6	P-FYELD, P-LVOL, Q-BCRGR
880593	PI503552/KS745820 81-19	KN001025	HRS	60.5	60.3	2.3	810	798	6	P-LVOL, Q-BCRGR
880594	PI503552/KS745820 81-21	KN001026	HRS	61.8	61.2	2.5	850	813	4	P-LVOL
880595	PI503552/KS745820 81-22	KN001027	HRS	62.6	62.2	2.4	835	810	4	P-LVOL
880596	PI503552/KS745820 81-26	KN001028	HRS	59.3	59.2	2.5	810	804	6	VP-FYELD, P-LVOL, Q-BCRGR
880597	PI503552/KS745820 81-32	KN001029	HRS	63.1	61.8	2.1	825	744	7	VP-LVOL, Q-P-BCRGR
880598	PI503552/KS745820 81-33	KN001030	HRS	61.2	60.1	2.3	795	727	6	P-LVOL, Q-BCRGR

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LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
880599	PI503552/KS745820 81-46	KN001031	HRS	62.3	72.1	0.35	89.5	11.2	60.1	3M
880600	PI503552/KS745820 81-47	KN001032	HRS	63.0	69.6	0.34	87.4	11.5	59.7	6M
880601	PI503552/KS745820 81-54	KN001033	HRS	63.3	72.5	0.27	94.1	11.3	58.0	4M
880602	PI503552/KS745820 81-55	KN001034	HRS	62.9	70.9	0.31	90.4	11.3	62.3	3M
880603	PI503552/KS745820 81-57	KN001035	HRS	62.4	70.2	0.34	88.1	10.6	60.6	4M
880604	PI503552/KS745820 81-59	KN001036	HRS	62.5	73.5	0.34	91.5	11.9	60.3	2H
880605	PI503552/KS745820 81-61	KN001037	HRS	62.3	70.5	0.34	88.3	12.0	61.3	3H
880606	PI503552/KS745820 81-62	KN001038	HRS	62.6	69.3	0.36	86.1	11.2	60.0	4M
880607	PI503552/KS745820 81-66	KN001039	HRS	62.4	71.7	0.35	89.1	12.2	61.6	3H
880608	PI503552/KS745820 81-68	KN001040	HRS	62.5	70.1	0.36	86.9	11.7	60.3	2H
880609	PI503552/KS745820 81-69	KN001041	HRS	62.1	70.9	0.34	88.8	12.4	60.4	4M
880610	PI503552/KS745820 81-70	KN001042	HRS	61.9	72.9	0.39	88.3	10.8	60.0	2H
880611	PI503552/KS745820 81-74	6/KN001043	HRS	62.3	71.7	0.36	88.5	11.8	61.9	3H
880612	PI503552/KS745820 81-75	KN001044	HRS	62.0	70.9	0.34	88.8	12.0	61.0	4M
880613	PI503552/KS745820 81-77	KN001045	HRS	63.2	73.5	0.34	91.5	11.4	60.0	3H
880614	PI503552/KS745820 82-15	KN001046	HRS	62.3	71.5	0.36	88.3	12.0	60.5	3H
880615	PI503552/KS745820 82-16	KN001047	HRS	61.7	70.6	0.38	86.3	11.1	60.9	3H
880616	PI503552/KS745820 82-18	KN001048	HRS	63.3	73.0	0.33	91.5	11.5	60.5	3H
880617	PI503552/KS745820 82-28	KN001049	HRS	61.9	71.7	0.36	88.6	11.5	61.8	4H
880618	PI503552/KS745820 82-36	KN001050	HRS	62.2	70.7	0.35	88.0	11.5	61.5	2H
880619	PI503552/KS745820 82-38	KN001051	HRS	62.1	71.4	0.33	89.8	11.2	60.7	2H
880620	PI503552/KS745820 82-41	KN001052	HRS	61.3	69.0	0.36	85.7	11.2	62.1	2H
880621	PI503552/KS745820 82-42	6/KN001053	HRS	62.7	73.1	0.35	90.6	10.4	61.3	4M
880622	PI503552/KS745820 82-44	6/KN001054	HRS	61.6	71.2	0.34	89.1	11.3	62.2	2H
880623	PI503552/KS745820 82-45	6/KN001055	HRS	61.6	71.8	0.32	90.7	11.4	62.6	3H
880624	PI503552/KS745820 82-46	KN001056	HRS	62.5	72.9	0.32	91.9	11.3	62.2	3H
880625	PI503552/KS745820	KN001057	HRS	62.6	72.4	0.35	89.9	10.9	62.3	3M
880626	PI503552/KS745820 82-55	KN001058	HRS	62.3	72.6	0.30	92.6	11.4	62.0	3H
880627	PI503552/KS745820 82-56	KN001059	HRS	63.0	71.3	0.33	89.7	10.5	61.4	3H
880628	PI503552/KS745820 82-58	6/KN001060	HRS	63.0	71.8	0.33	90.2	11.0	62.9	4H

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LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					3/				4/	
880599	PI503552/KS745820 81-46	KN001031	HRS	60.5	60.3	2.4	84.0	828	6	Q-LVOL, Q-BCRGR
880600	PI503552/KS745820 81-47	KN001032	HRS	64.4	63.9	2.7	905	874	5	P-FYELD, Q-BCRGR
880601	PI503552/KS745820 81-54	KN001033	HRS	59.0	58.7	2.3	825	806	7	P-LVOL, Q-P-BCRGR
880602	PI503552/KS745820 81-55	KN001034	HRS	62.8	62.5	2.1	885	866	6	Q-BCRGR
880603	PI503552/KS745820 81-57	KN001035	HRS	60.9	61.3	2.8	890	915	6	Q-FYELD, Q-BCRGR
880604	PI503552/KS745820 81-59	KN001036	HRS	61.9	61.0	2.1	870	814	7	P-LVOL, Q-P-BCRGR
880605	PI503552/KS745820 81-61	KN001037	HRS	63.0	62.0	2.5	895	833	6	Q-FYELD, Q-LVOL, Q-BCRGR
880606	PI503552/KS745820 81-62	KN001038	HRS	60.9	60.7	2.5	900	888	4	P-FYELD
880607	PI503552/KS745820 81-66	KN001039	HRS	63.0	61.8	2.4	950	876	4	Q-FYELD, Q-BCRGR
880608	PI503552/KS745820 81-68	KN001040	HRS	61.7	61.0	2.2	910	867	5	Q-FYELD, Q-BCRGR
880609	PI503552/KS745820 81-69	KN001041	HRS	62.5	61.1	2.2	925	838	5	Q-LVOL, Q-BCRGR
880610	PI503552/KS745820 81-70	KN001042	HRS	60.0	60.2	2.4	845	857	8	P-BCRGR
880611	PI503552/KS745820 81-74	KN001043	HRS	63.4	62.6	2.5	955	905	4	Q-FYELD, Q-BCRGR
880612	PI503552/KS745820 81-75	KN001044	HRS	62.7	61.7	2.3	855	793	6	P-LVOL, Q-BCRGR
880613	PI503552/KS745820 81-77	KN001045	HRS	61.1	60.7	2.7	825	800	7	P-LVOL, Q-P-BCRGR
880614	PI503552/KS745820 82-15	KN001046	HRS	62.2	61.2	2.2	870	808	5	P-LVOL, Q-BCRGR
880615	PI503552/KS745820 82-16	KN001047	HRS	61.7	61.6	2.8	910	904	6	Q-FYELD, Q-BCRGR
880616	PI503552/KS745820 82-18	KN001048	HRS	61.7	61.2	2.5	860	829	6	Q-LVOL, Q-BCRGR
880617	PI503552/KS745820 82-28	KN001049	HRS	63.0	62.5	3.1	965	934	5	Q-BCRGR
880618	PI503552/KS745820 82-36	KN001050	HRS	62.7	62.2	2.3	895	864	7	Q-P-BCRGR
880619	PI503552/KS745820 82-38	KN001051	HRS	61.6	61.4	2.3	885	873	7	Q-P-BCRGR
880620	PI503552/KS745820 82-41	KN001052	HRS	63.0	62.8	2.4	910	898	6	P-FYELD, Q-BCRGR
880621	PI503552/KS745820 82-42	KN001053	HRS	61.4	62.0	3.1	865	902	4	
880622	PI503552/KS745820 82-44	KN001054	HRS	63.2	62.9	2.4	930	911	4	
880623	PI503552/KS745820 82-45	KN001055	HRS	63.7	63.3	2.9	900	875	4	
880624	PI503552/KS745820 82-46	KN001056	HRS	63.2	62.9	2.7	865	846	5	Q-LVOL, Q-BCRGR
880625	PI503552/KS745820	KN001057	HRS	62.9	63.0	2.7	915	921	6	Q-BCRGR
880626	PI503552/KS745820 82-55	KN001058	HRS	63.1	62.7	2.7	925	900	6	Q-BCRGR
880627	PI503552/KS745820 82-56	KN001059	HRS	61.6	62.1	2.5	855	886	5	Q-BCRGR
880628	PI503552/KS745820 82-58	KN001060	HRS	65.4	65.4	3.1	885	885	4	

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LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
880629	PI503552/KS745820 82-59	KN001061	HRS	62.0	70.1	0.31	89.6	11.4	62.3	3H
880630	PI503552/KS745820 82-61	KN001062	HRS	62.2	70.0	0.35	87.3	11.0	60.9	2H
880631	PI503552/KS745820 82-66	KN001063	HRS	62.2	72.4	0.34	90.4	10.4	59.9	4M
880632	PI503552/KS745820 82-70	KN001064	HRS	61.8	71.2	0.33	89.6	10.5	60.3	3H
880633	PI503552/KS745820 82-73	KN001065	HRS	62.6	71.8	0.35	89.2	11.1	60.8	2H
880634	PI503552/KS745820 82-75	KN001066	HRS	62.8	72.0	0.36	88.9	11.3	61.6	3H
880635	PI503552/KS745820 82-76	KN001067	HRS	62.2	71.1	0.36	88.0	11.8	61.5	3H
880636	PROBSTORFER-EXTREM/T0866	ORCR8313	HRS	64.4	72.3	0.31	91.8	12.0	60.9	3H
880637	PI503552/KS745820 82-81	KN001069	HRS	61.5	72.3	0.37	88.7	11.8	61.9	3H
880638	PI503552/KS745820 82-82	KN001070	HRS	61.2	71.4	0.38	87.2	11.6	61.4	2H
880639	PI503552/KS745820 82-83	KN001071	HRS	62.5	71.2	0.38	87.0	11.9	62.3	3H
880640	PI503552/KS745820 82-84	KN001072	HRS	62.6	71.4	0.38	87.2	12.1	60.2	2H

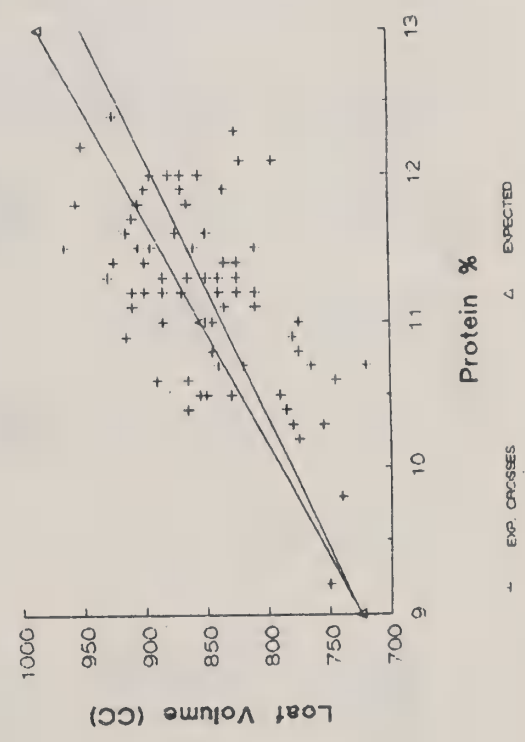
E. DONALDSON

LIND, WA

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC 3/	MTIME	LVOL	LVOLC 4/	BCRGR	RMKS
880629	PI503552/KS745820 82-59	KN001061	HRS	63.4	63.0	2.9	900	875	5	Q-BCRGR
880630	PI503552/KS745820 82-61	KN001062	HRS	62.6	62.6	2.4	845	845	4	Q-FYELD, Q-LVOL
880631	PI503552/KS745820 82-66	KN001063	HRS	60.0	60.6	2.4	785	822	6	P-LVOL, Q-BCRGR
880632	PI503552/KS745820 82-70	KN001064	HRS	60.5	61.0	2.3	790	821	7	P-LVOL, Q-P-BCRGR
880633	PI503552/KS745820 82-73	KN001065	HRS	61.4	61.3	2.4	835	829	7	P-LVOL, Q-P-BCRGR
880634	PI503552/KS745820 82-75	KN001066	HRS	62.6	62.3	2.8	850	831	5	Q-LVOL, Q-BCRGR
880635	PI503552/KS745820 82-76	KN001067	HRS	63.0	62.2	2.5	905	855	6	Q-BCRGR
880636	PROBSTORFER-EXTREM/T0866	ORCR8313	HRS	62.1	61.1	2.8	880	818	6	P-LVOL, Q-BCRGR
880637	PI503552/KS745820 82-81	KN001069	HRS	63.4	62.6	2.7	865	815	6	P-LVOL, Q-BCRGR
880638	PI503552/KS745820 82-82	KN001070	HRS	62.7	62.1	2.1	915	878	5	Q-BCRGR
880639	PI503552/KS745820 82-83	KN001071	HRS	63.9	63.0	2.3	900	844	5	Q-LVOL, Q-BCRGR
880640	PI503552/KS745820 82-84	KN001072	HRS	61.5	60.4	2.3	825	757	6	P-LVOL, Q-BCRGR

COMMENTS: This nursery averaged 11% flour protein. The major deficiencies were poor loaf volume and poor to questionable bread crumb grain. Flour yield and milling score of most of the selections were generally satisfactory even through somewhat less than the checks, Batum and Hatton. Loaf volume of over half of the selections were not up to that expected for their flour protein level. See "footnotes" for those selections with promising overall quality characteristics.

LOAF VOLUME VS PROTEIN



C.O. QUALSET

SACRAMENTO, CA

NURSCO 22

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880641	INIA/CNO//CAL/3/ANZA	810/2	HRS	64.7	71.3	0.37	87.5	12.4	66.3	2H
880642	JILQUENO "S"/ANZA	810/4	HRS	63.2	71.4	0.36	88.0	12.7	65.2	2H
880643	TZPP/ANZA2	810/5	HRS	64.7	72.9	0.37	89.1	12.3	66.4	2H
880644	SHASTA/YECORA ROJO	810/9	HRS	62.7	69.5	0.51	78.4	12.2	64.8	3H
880645	SHASTA/YECORA ROJO	810/10	HRS	62.7	70.1	0.48	80.7	12.3	63.7	2H
880646	BB "S"/ANZA/YECORA ROJO	810/20	HRS	63.6	70.0	0.39	85.1	11.5	65.0	3H
880647	BB "S"/ANZA/YECORA ROJO	810/21	HRS	62.7	68.1	0.40	82.8	12.4	65.9	4H
880648	YOLO "S"/YECORA ROJO	6/ 810/22	HRS	63.6	71.5	0.38	87.3	11.5	64.7	4H
880649	INIA/CNO//CAL/3/ANZA/4/YEC ROJO	810/23	HRS	62.9	70.5	0.38	86.1	11.5	64.8	3H
880650	UC 638	6/ 810/29	HRS	64.0	72.0	0.38	87.6	12.5	65.1	5H
880651	UC 702	810/31	HRS	64.4	70.4	0.34	87.9	13.0	67.4	4H
880652	UC 703	810/32	HRS	64.1	69.7	0.35	86.9	12.8	65.8	2H
880653	YOLO	810/33	HRS	64.5	73.2	0.38	89.2	10.7	63.0	1H
880654	WESTBRED 911	810/36	HRS	63.5	68.1	0.37	84.0	12.0	66.2	3H
880655	YECORA ROJO	810/37	HRS	63.2	69.6	0.40	84.1	13.2	66.0	5H
880656	INIA NF600-7-3/166	810/38	HRS	63.4	68.9	0.36	85.6	13.8	65.4	2H
880657	T79/8	6/ 810/39	HRS	62.2	69.1	0.39	84.1	12.4	69.6	4H
880658	ANZA/JUSTIN	5/ 810/43	HRS	64.3	70.9	0.38	86.8	13.2	66.9	3H
880659	TZPP/WTE//NP633/4/1"S"/3/SON64/2/TZPP/V5	6/ 810/44	HRS	64.3	71.7	0.38	87.5	13.4	66.8	5H
880660	HUE/QUEN//166R/YECORA ROJO	810/47	HRS	62.8	67.6	0.41	81.5	13.8	65.3	3H
880661	C113232/R50//ANZA/3/YECORA ROJO	810/49	HRS	63.5	72.9	0.43	85.8	12.7	63.1	2H
880662	NDM00004/NK00751 S82 WA07494	5/ 810/50	HRS	62.2	70.9	0.41	85.2	12.7	66.5	3H
880663	NDM000751/NDM000111 S KNC0043	5/ 810/51	HRS	62.8	70.7	0.40	85.2	12.5	66.8	3H
880664	NDM000751/NDM000111 S8 KNC0043	5/ 810/52	HRS	63.2	70.9	0.38	86.3	12.0	68.1	4H
880665	SON64/R50//166	810/53	HRS	63.8	67.8	0.38	83.6	12.4	66.7	3H
880666	DIBO/MENTLO//ANZA	6/ 810/54	HRS	63.9	70.2	0.36	86.7	12.4	66.3	5H
880667	SHASTA/166R	810/55	HRS	64.0	68.7	0.38	84.1	11.5	65.3	3H
880668	TOB/7C/TORIM 73	810/56	HRS	63.5	68.5	0.43	81.7	13.6	69.0	5H
880669	BB"S"/SDY/4/GZ/GB//MDG27/3/166R	6/ 810/57	HRS	61.9	69.1	0.41	83.3	13.3	66.7	5H
880670	MG168//WTE//YA/TA/4/1P/15//CB479/3/VEC RO	810/58	HRS	62.1	68.5	0.36	85.1	12.9	65.7	4H

C.O. QUALSET

SACRAMENTO, CA

NURSCO 22

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880641	INIA/CNO//CAL/3/ANZA	810/2	HRS	67.4	67.0	2.0	915	890	4	Short MTime, Q-BCRGR
880642	JILQUENO "S"/ANZA	810/4	HRS	65.6	64.9	1.5	890	847	8	P-MTIME, LVOL, BCRGR
880643	TZPP/ANZA2	810/5	HRS	65.9	65.6	1.8	920	901	3	P-MTIME
880644	SHASTA/YECORA ROJO	810/9	HRS	65.2	65.0	2.5	805	793	5	P-FYELD, LVOL, BCRGR
880645	SHASTA/YECORA ROJO	810/10	HRS	64.2	63.9	2.4	815	796	5	P-LVOL, BCRGR
880646	BB "S"/ANZA/YECORA ROJO	810/20	HRS	65.2	65.7	3.0	810	841	6	Q-FYELD, BCRGR
880647	BB "S"/ANZA/YECORA ROJO	810/21	HRS	67.0	66.6	3.3	825	800	6	P-FYELD, Q-BCRGR
880648	YOLO "S"/YECORA ROJO	810/22	HRS	64.9	65.4	3.5	850	881	4	Q-BCRGR
880649	INIA/CNO//CAL/3/ANZA/4/YEC ROJO	810/23	HRS	65.5	66.0	2.4	845	876	6	Q-MTIME, BCRGR
880650	UC 638	810/29	HRS	67.3	66.8	4.4	900	869	3	Q-BCRGR
880651	UC 702	810/31	HRS	76.1	75.1	3.6	925	863	6	Q-P-BCRGR
880652	UC 703	810/32	HRS	66.3	65.5	1.8	880	830	5	P-MTIME, Q-LVOL, BCRGR
880653	YOLO	810/33	HRS	60.9	62.2	1.5	785	866	8	
880654	WESTBRED 911	810/36	HRS	67.9	67.9	3.0	830	830	5	
880655	YECORA ROJO	810/37	HRS	68.9	67.7	3.9	985	911	2	
880656	INIA NF600-7-3/166	810/38	HRS	68.4	66.6	2.2	970	858	2	Q-LVOL, MTIME
880657	179/8	810/39	HRS	71.2	70.8	3.0	900	875	5	Q-BCRGR
880658	ANZA/JUSTIN	810/43	HRS	68.8	67.6	3.0	1015	941	1	
880659	TZPP/WTE//NP633/4/1"S"/3/SON64/2/TZPP/Y5	810/44	HRS	69.9	68.5	4.2	990	903	2	
880660	HUE/QUEN//166R/YECORA ROJO	810/47	HRS	67.1	65.3	2.4	925	813	4	Q-FYELD, LVOL, BCRGR
880661	C113232/R50//ANZA/3/YECORA ROJO	810/49	HRS	64.5	63.8	1.9	835	792	7	P-MTIME, LVOL, BCRGR
880662	NDM00004/NK00751 S82 WA07494	810/50	HRS	65.9	65.2	3.4	1070	1027	2	
880663	NDM000751/NDM000111 S KNC0043	810/51	HRS	67.0	66.5	3.1	980	949	1	
880664	NDM000751/NDM000111 S8 KNC0043	810/52	HRS	68.3	68.3	3.5	950	950	2	
880665	SON64/R50//166	810/53	HRS	67.8	67.4	3.4	885	860	3	P-FYELD, Q-BCRGR
880666	DIBO/MENTLO//ANZA	810/54	HRS	66.9	66.5	4.1	890	865	3	Q-LVOL
880667	SHASTA/166R	810/55	HRS	65.0	65.5	2.9	820	851	5	Q-LVOL, BCRGR, FYELD
880668	TOB/7C/TORIM 73	810/56	HRS	71.3	69.7	4.0	965	866	3	Q-LVOL, BCRGR, FYELD
880669	BB"S"/SDY/4/GZ/GB//MDG27/3/166R	810/57	HRS	69.2	67.9	4.0	1075	994	4	Q-BCRGR
880670	MG168//WTE/YA/TA/4/1P/15//CB479/3/YEC RO	810/58	HRS	67.3	66.4	3.2	910	854	4	Q-LVOL, BCRGR

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

ADVANCED BREAD WHEAT (RED)

C.O. QUALSET

SACRAMENTO, CA

NURSCO 22

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880671	SOLAR//TADORNA/INIA66	810/61	HRS	63.9	70.1	0.35	87.2	11.1	67.7	5H
880672	SOLAR/3/CLEO/166//ANZA	6/810/62	HRS	62.1	70.1	0.39	85.3	12.1	66.5	4H
880673	CLEO/166//YECORA ROJO	810/63	HRS	63.3	67.7	0.38	83.2	11.0	66.6	4H
880674	CLEO/166//YECORA ROJO	810/64	HRS	63.0	66.9	0.39	81.9	10.9	66.9	5H
880675	CLEO/166//YECORA ROJO	810/65	HRS	62.5	66.5	0.37	82.3	12.9	64.8	3H
880676	TADORNA/166//YECORA ROJO	810/66	HRS	62.4	66.6	0.36	83.1	11.8	66.9	5H
880677	TADORNA/166//YECORA ROJO	6/810/67	HRS	62.6	68.8	0.36	85.6	11.7	64.8	3H
880678	TADORNA/166//YECORA ROJO	6/810/68	HRS	62.0	69.3	0.37	85.5	13.0	64.5	3H
880679	TADORNA/166//YECORA ROJO	6/810/69	HRS	62.5	71.5	0.40	86.4	12.0	65.0	5H
880680	CLEO/166//YR/3/YR"S"/MEXIFEN//PROBRAND	6/810/70	HRS	62.3	71.1	0.40	85.9	11.7	64.8	4H
880681	ANZA/GAINES//CAL/3/PBD771/4/TADORNA/166/6/810/71	6/810/71	HRS	60.5	71.6	0.43	84.6	12.6	65.4	5H
880682	LEN	5/810/72	HRS	62.8	73.1	0.39	88.5	13.1	67.8	5H
880683	MARSHAL	810/73	HRS	63.4	74.0	0.40	88.7	11.4	64.4	3H
880684	STOA	6/810/74	HRS	62.6	72.6	0.39	87.8	12.2	65.8	3H
880685	ANZA/CAJEME	810/81	HRS	62.1	73.8	0.36	90.8	12.5	64.5	2H
880686	ANZA/CAJEME	6/810/82	HRS	62.7	71.5	0.42	85.0	14.3	65.8	3H
880687	ANZA/CAJEME	810/83	HRS	63.7	71.9	0.37	88.0	11.5	63.0	2H
880688	ANZA/CAJEME	810/84	HRS	64.2	72.9	0.37	89.3	12.9	61.7	2H
880689	ANZA/CAJEME	810/85	HRS	63.7	71.6	0.37	87.7	14.3	64.7	2H
880690	ANZA/CAJEME	810/86	HRS	62.8	71.4	0.38	87.3	11.6	64.5	2H
880691	ANZA/CAJEME	810/87	HRS	62.5	71.0	0.39	85.9	12.6	64.9	2H
880692	ANZA/CAJEME	810/88	HRS	63.4	71.9	0.36	88.6	11.8	62.8	2H
880693	ANZA/CAJEME	810/89	HRS	63.2	73.0	0.36	89.8	12.0	63.2	2H
880694	ANZA/CAJEME	810/90	HRS	63.7	71.7	0.38	87.5	10.9	62.8	4M
880695	ANZA/CAJEME	6/810/91	HRS	64.2	71.7	0.41	86.1	12.9	64.6	3H
880696	ANZA/CAJEME	810/92	HRS	63.8	71.2	0.38	87.1	11.5	63.1	3H

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

ADVANCED BREAD WHEAT (RED)

C.O. QUALSET

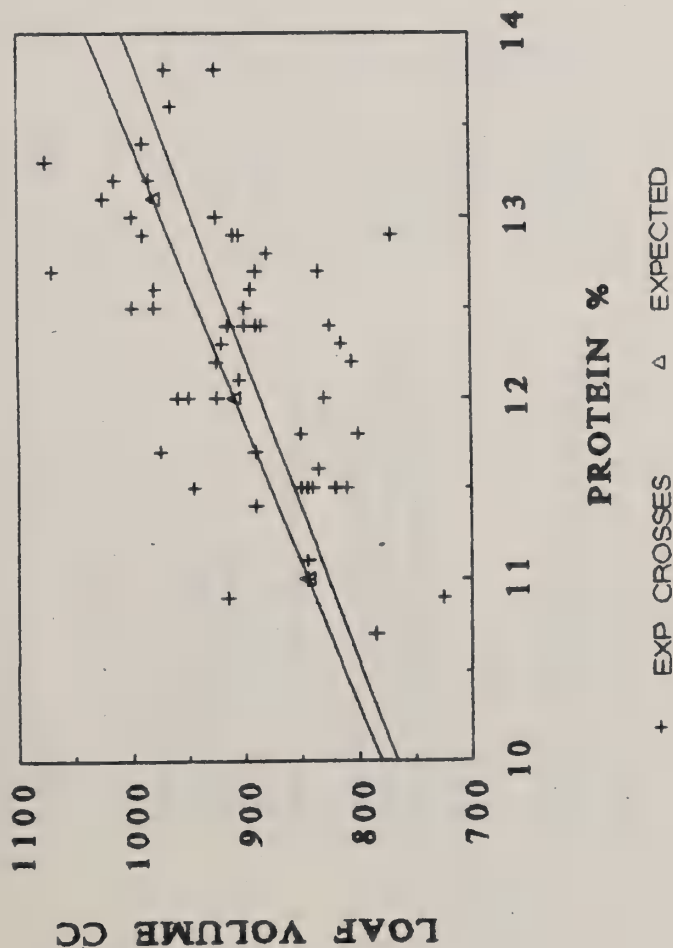
SACRAMENTO, CA

NURSCO 22

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880671	SOLAR//TADORNA/INIA66	810/61	HRS	67.5	68.4	5.0	845	901	6	Q-P-BCRGR
880672	SOLAR/3/CLEO/166//ANZA	810/62	HRS	66.8	66.7	3.5	905	899	4	Q-BCRGR
880673	CLEO/166//YECORA ROJO	810/63	HRS	66.8	67.8	3.4	845	907	3	Q-FYELD, BCRGR
880674	CLEO/166//YECORA ROJO	810/64	HRS	67.5	68.6	4.7	725	793	7	P-FYELD, LVOL, BCRGR
880675	CLEO/166//YECORA ROJO	810/65	HRS	67.4	66.5	3.3	905	849	3	P-FYELD, LVOL
880676	TADORNA/166//YECORA ROJO	810/66	HRS	68.4	68.6	4.4	800	812	4	P-FYELD, LVOL, BCRGR
880677	TADORNA/166//YECORA ROJO	810/67	HRS	66.2	66.5	3.0	890	909	3	
880678	TADORNA/166//YECORA ROJO	810/68	HRS	67.2	66.2	3.5	1000	938	3	
880679	TADORNA/166//YECORA ROJO	810/69	HRS	66.7	66.7	4.4	960	960	3	
880680	CLEO/1662//YR/3/YR"S"/MEXIFEN//PROBRAND7	810/70	HRS	66.2	66.5	3.7	975	994	2	
880681	ANZA/GAINES//CAL/3/PBD771/4/TADORNA/166/	810/71	HRS	66.2	65.6	6.5	980	943	3	
880682	LEN	810/72	HRS	70.6	69.5	3.9	1025	957	3	
880683	MARSHAL	810/73	HRS	64.0	64.6	2.3	890	927	5	Q-BCRGR
880684	STOA	810/74	HRS	65.7	65.5	3.1	925	913	2	
880685	ANZA/CAJEME	810/81	HRS	63.7	63.2	2.3	1000	969	6	Q-MTIME, BCRGR
880686	ANZA/CAJEME	810/82	HRS	67.8	65.5	2.8	1055	912	3	Q-BCRGR
880687	ANZA/CAJEME	810/83	HRS	60.2	60.7	1.3	840	871	8	P-MTIME, BCRGR
880688	ANZA/CAJEME	810/84	HRS	62.3	61.4	1.2	770	714	9	P-MTIME, BCRGR
880689	ANZA/CAJEME	810/85	HRS	66.7	64.4	2.1	1025	882	4	Q-MTIME, BCRGR
880690	ANZA/CAJEME	810/86	HRS	63.8	64.2	1.5	835	860	8	P-MTIME, LVOL, BCRGR
880691	ANZA/CAJEME	810/87	HRS	65.7	65.1	2.2	895	858	8	P-MTIME, LVOL, BCRGR
880692	ANZA/CAJEME	810/88	HRS	62.3	62.5	2.0	850	862	9	P-MTIME, LVOL, BCRGR
880693	ANZA/CAJEME	810/89	HRS	62.9	62.9	2.1	925	925	8	P-MTIME, BCRGR
880694	ANZA/CAJEME	810/90	HRS	62.4	63.5	2.6	915	983	6	Q-MTIME, BCRGR
880695	ANZA/CAJEME	810/91	HRS	66.2	65.3	2.8	990	934	4	Q-BCRGR
880696	ANZA/CAJEME	810/92	HRS	63.3	63.8	3.0	945	976	6	Q-P-BCRGR

COMMENTS: See Page 3.

LOAF VOLUME VS PROTEIN ADVANCED BREAD WHEAT (RED)



Statistics	Graph A	Graph B
Size	56	3
Total	50875	2736
Mean	908.482143	912
Maximum	1075	981
Minimum	725	845
Standard Dev.	77.291864	68.022055
Standard Error	10.595821	39.272552
95% Confidence	20.767809	76.974202
99% Confidence	27.337218	101.323184
a0	161.68724	132.741692
a1	60.443004	64.758308
a2	0	0
a3	0	0
a4	0	0
a5	0	0
a6	0	0
Rval	0.636765	0.999998

COMMENTS: Several of these selections have good promise for overall hard red wheat quality (See Footnotes). Those not footnoted have some serious deficiencies to meet good quality standards, which are noted in "Remarks". The plot of the protein vs loaf volume indicates a wide range of quality across a wide range of protein observed within the selections.

C.O. QUALSET

SACREMENTO, CA

NURSCO 23

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	COOI
880697	RULOFEN2/ANZA	811/2	HWS	64.2	71.9	0.36	88.6	11.0	56.7	8.27
880698	BC60/CAL//ANZA	811/3	SWS	66.5	67.9	0.32	86.5	11.1	60.2	8.86
880699	BC60/CAL//ANZA	811/5	SWS	65.4	68.8	0.34	86.4	10.9	59.7	8.66
880700	70W 10-19	811/6	SWS	65.9	66.7	0.35	83.7	11.7	60.4	8.87
880701	221/166//YR2/3/70W10-19/ANZA	811/7	HWS	64.8	69.5	0.35	86.7	11.7	60.3	8.26
880702	221/166//YR2/3/70W10-19/ANZA	811/8	SWS	65.0	68.1	0.31	87.3	12.1	60.4	8.61
880703	221/166//YR2/3/70W10-19/ANZA	6/811/9	SWS	64.5	70.7	0.37	87.3	12.3	57.5	8.60
880704	221/166//YR2/3/70W10-19/ANZA	6/811/10	SWS	64.4	68.6	0.31	87.8	11.9	59.0	8.86
880705	YOLO	811/25	HRS	65.4	73.2	0.36	90.1	10.5	58.7	8.42
880706	PHOENIX	811/27	HW	65.7	72.5	0.29	92.9	11.2	63.5	8.54
880707	BC60/CAL//ANZA	811/32	SWS	64.5	67.4	0.33	85.6	10.9	58.9	8.98
880708	221/166//YR2/3/70W10-19/ANZA	6/811/33	SWS	64.6	70.5	0.35	88.9	10.2	57.4	8.96

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

ADVANCED PASTRY WHITE CLUB WHEAT

C.O. QUALSET

SACRAMENTO, CA

NURSCO 23

LABNUM	VARIETY	IDNO	CLASS	CODIC	MTYPE	RMKS
880697	RULOFEN2/ANZA	811/2	HWS	8.27	2M	"Hard" P-CODI, MTYPE
880698	BC60/CAL//ANZA	811/3	SWS	8.87	3H	Q-FYELD, MABS
880699	BC60/CAL//ANZA	811/5	SWS	8.65	1H	P-FYELD, CODI
880700	70W 10-19	811/6	SWS	8.95	3M	P-FYELD
880701	221/166//YR2/3/70W10-19/ANZA	811/7	HWS	8.32	2H	"Hard" P-CODI, MABS
880702	221/166//YR2/3/70W10-19/ANZA	811/8	SWS	8.73	2H	Q-FYELD, MABS
880703	221/166//YR2/3/70W10-19/ANZA	811/9	SWS	8.74	3M	
880704	221/166//YR2/3/70W10-19/ANZA	811/10	SWS	8.96	2M	Q-FYELD
880705	YOLO	811/25	HRS	8.38	2H	
880706	PHOENIX	811/27	HWM	8.55	3H	
880707	BC60/CAL//ANZA	811/32	SWS	8.96	2H	Q-FYELD
880708	221/166//YR2/3/70W10-19/ANZA	811/33	SWS	8.87	3M	Q-FYELD

COMMENTS: These selections were characterized by poor flour yield atypical of either common soft white or club wheat. Cookie diameters appear reasonably good, however, with the absence of a soft cultivar for a control there is some risk in this judgement. They are also high in water absorption (but somewhat accountable to the high protein level). Selection #9, 10 & 33 appear to be most promising of the group.

C.O. QUALSET

SACRAMENTO, CA

NURSCO 24

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880709	NURI"S"/ANZA	5/811/1	HWS	64.8	72.7	0.35	90.0	13.0	64.9	3H
880710	PAVON 76	6/811/4	HWS	65.0	69.7	0.33	88.0	10.9	64.9	4H
880711	CNO/I"S"/BB	811/17	HWS	64.5	65.7	0.31	84.8	11.3	64.6	3H
880712	DGA/BJY"S"	5/811/19	HWS	64.2	71.5	0.31	90.9	11.4	67.0	5H
880713	DGA/BJY"S"	6/811/20	HWS	64.3	71.2	0.32	90.1	11.9	66.4	5H
880714	47772/3/FKN/GB//VEE"S"/4/BUC"S"/PUN"S"	811/21	HWS	65.3	62.7	0.39	77.5	11.4	63.9	3H
880715	MAYA-NAC	811/22	HWS	64.9	69.8	0.34	87.6	12.2	66.2	2H
880716	(RRV/WJ15//BJ"S"/ON2/3/BON/4/NAC	811/23	HWS	64.8	64.4	0.35	81.4	10.6	65.7	3H
880717	YECORA ROJO	811/24	HRS	64.3	71.7	0.35	89.0	12.5	66.4	6H
880718	PHOENIX	811/27	HMW	64.6	72.1	0.35	89.5	11.4	64.3	6H
880719	KLASIC	811/28	HWS	63.2	70.3	0.34	88.1	11.6	65.6	5H
880720	YR"S"(R)/MEXIFEN//PROBRAND771/3/CLEV/166	811/31	HWS	65.8	72.4	0.30	92.3	11.3	66.6	3H

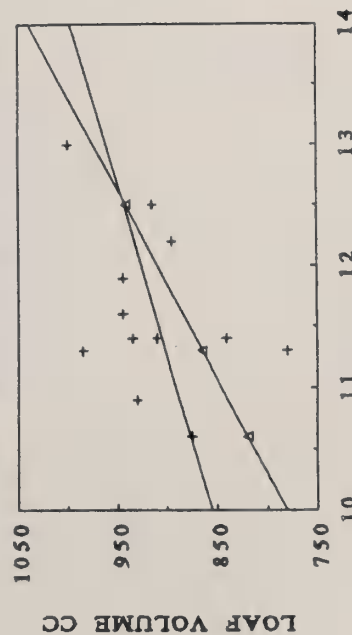
NURSCO 24

SACRAMENTO, CA

C.O. QUALSET

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880709	NURI"S"/ANZA	811/1	HWS	66.6	65.6	3.1	1000	938	1	Q-FYELD
880710	PAVON 76	811/4	HWS	64.5	65.6	2.9	930	998	2	P-FYELD, MTIME, LVOL, BCRGR
880711	CNO/I"S"//B8	811/17	HWS	64.6	65.3	2.2	780	823	7	Q-BCRGR
880712	DGA/BJY"S"	811/19	HWS	67.1	67.7	3.7	935	972	2	P-FYELD, LVOL, BCRGR
880713	DGA/BJY"S"	811/20	HWS	67.0	67.1	3.5	945	951	3	
880714	47772/3/FKN/GB//VEE"S"/4/8UC"S"/PUN"S"	811/21	HWS	63.5	64.1	2.5	840	877	4	
880715	MAYA-NAC	811/22	HWS	66.6	66.4	2.0	895	883	5	
880716	(RRV/WW15//BJ"S"/ON2/3/BON/4/NAC	811/23	HWS	64.5	65.9	2.4	875	962	4	
880717	YECORA ROJO	811/24	HRS	67.1	66.6	4.6	915	884	2	
880718	PHOENIX	811/27	HWS	63.9	64.5	5.4	910	947	6	?? Phoenix
880719	KLASIC	811/28	HWS	65.4	65.8	3.2	945	970	2	
880720	YR"S"(R)/MEXIFEN//PROBRAND771/3/CLEV/166	811/31	HWS	66.1	66.8	2.2	985	1028	6	P-MTIME, BCRGR

LOAF VOLUME VS PROTEIN
ADVANCED BREAD WHEAT (WHITE)



PROTEIN %

+ EXP CROSSES Δ EXPECTED

COMMENTS: Selection #'s 811/1 and /19 have good overall hard white wheat quality, equal to or better than Klasic and superior to Yecora Rojo. The check variety Phoenix is suspect of mis-identify, as the dough mixing properties do not fit Phoenix. The accompanied plot shows several of these to be well above acceptable loaf volume level.

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WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

W-S ISOLINES

PAGE 1

C.O. QUALSET

DAVIS, CA

NURSCO 25

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880721 C870001		803/1	HRS	62.8	70.2	0.32	89.1	8.9	60.6	3M
880722 C870003		803/2	HRS	62.2	70.0	0.32	88.8	9.0	61.0	3M
880723 C710001		803/3	HRS	62.8	69.7	0.29	90.1	8.8	59.2	2M
880724 C870005		803/4	HRS	63.7	70.2	0.31	89.5	10.7	64.1	5H
880725 C870007		803/5	HRS	62.7	70.6	0.31	90.0	10.8	62.9	5H
880726 C740001		6/803/6	HRS	63.1	71.1	0.29	91.5	10.9	63.7	5H
880727 C870008		803/7	HRS	63.3	70.1	0.29	90.5	10.8	62.1	6M
880728 C870010		803/8	HRS	63.2	70.2	0.32	89.0	10.1	64.0	8M
880729 C740004		803/9	HRS	62.5	70.8	0.34	88.7	11.0	62.9	4H
880730 C870017		803/16	HRS	59.2	64.5	0.35	81.5	9.5	61.0	3M
880731 C870018		803/17	HRS	58.2	65.3	0.33	83.4	10.0	61.0	3M
880732 C620005		803/18	SWS	59.0	58.5	0.41	69.7	10.2	61.3	3M
880733 C810002		803/19	HWS	63.0	69.0	0.35	86.2	9.5	62.2	4M

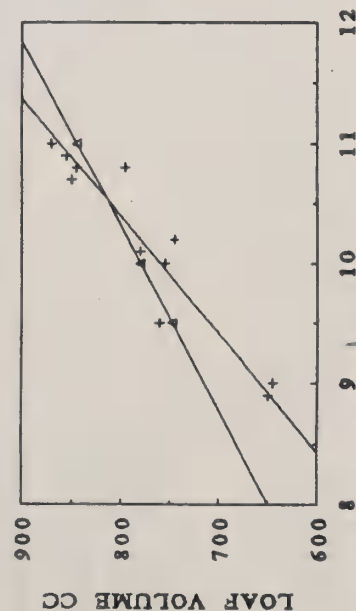
NURSCO 25

DAVIS, CA

C.O. QUALSET

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880721 C870001		803/1	HRS	59.7	60.8	2.1	650	718	9	P-MTIME, LVOL, BCRGR
880722 C870003		803/2	HRS	60.2	61.2	2.1	645	707	9	P-MTIME, LVOL, BCRGR
880723 C710001		803/3	HRS	61.2	62.4	1.8	590	664	9	P-MTIME, LVOL, BCRGR
880724 C870005		803/4	HRS	65.5	64.8	3.9	850	807	5	Q-BCRGR
880725 C870007		803/5	HRS	64.4	63.6	3.4	845	795	4	Q-BCRGR
880726 C740001		803/6	HRS	65.3	64.4	4.0	855	799	3	
880727 C870008		803/7	HRS	63.6	62.8	2.8	795	745	5	Q-LVOL, BCRGR
880728 C870010		803/8	HRS	64.8	64.7	3.5	780	774	7	P-BCRGR
880729 C740004		803/9	HRS	64.6	63.6	3.0	870	808	7	P-BCRGR
880730 C870017		803/16	HRS	59.7	60.2	2.0	760	791	8	P-FYELD, MTIME, BCRGR
880731 C870018		803/17	HRS	61.2	61.2	1.9	755	755	8	P-FYELD, MTIME, BCRGR
880732 C620005		803/18	SWS	61.7	61.5	1.9	745	733	8	P-FYELD, MTIME, BCRGR
880733 C810002		803/19	HWS	62.4	62.9	2.6	760	791	9	P-BCRGR

LOAF VOLUME VS PROTEIN



PROTEIN %

+ EXP CROSSES Δ EXPECTED

COMMENTS: These isolines vary considerably in dough mixing properties and other baking characters. They seem to have a weakness for bread crumb structure.

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DAVIS, CA

NURSCO 26

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880734 C870002		8167/25	HWS	61.9	72.1	0.28	93.2	10.9	60.4	3M
880735 C870004		8167/26	HWS	64.4	72.2	0.30	92.0	10.2	62.3	3M
880736 C870006		6/8167/27	HWS	62.8	69.5	0.37	85.6	12.6	65.7	6H
880737 C870006		6/8167/28	HWS	60.4	68.9	0.35	86.0	13.5	68.0	6H
880738 C870009		5/8167/29	HWS	62.0	71.6	0.29	92.0	14.5	62.3	3H
880739 C870009		8167/30	HWS	64.0	72.0	0.29	92.3	13.0	63.7	2H
880740 C870018		8167/31	HWS	58.0	67.1	0.32	85.7	11.0	63.1	2H
880741 C870018		8167/32	HWS	60.4	69.2	0.33	87.4	11.0	63.6	2H
LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880734 C870002		8167/25	HWS	59.5	60.6	2.3	920	988	4	Q-BCRGR, MTIME
880735 C870004		8167/26	HWS	60.7	62.5	2.0	850	962	5	Q-MTIME, BCRGR
880736 C870006		8167/27	HWS	67.0	66.4	5.1	985	948	2	
880737 C870006		8167/28	HWS	69.5	68.0	5.2	1035	942	2	
880738 C870009		8167/29	HWS	65.5	63.0	3.1	1080	925	2	
880739 C870009		8167/30	HWS	64.9	63.9	1.7	965	903	7	P-MTIME, BCRGR
880740 C870018		8167/31	HWS	62.3	63.3	1.5	800	862	7	P-FYELD, MTIME, BCRGR
880741 C870018		8167/32	HWS	62.8	63.8	1.7	815	877	7	P-MTIME, BCRGR

COMMENTS: These hard white isolines differ significantly in dough mixing properties and the associated baking properties. Selection 8167/29 is an outstanding line.

C.O. QUALSET

TULELAKE, CA

NURSCO 27

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880742 .		8126/1	HWS	65.1	74.0	0.36	90.9	10.1	62.9	3M
880743 ANZA		8126/2	HRS	64.7	74.2	0.36	91.1	10.6	61.9	2M
880744 YECORA ROJO		8126/3	HRS	63.7	72.1	0.37	88.1	13.1	64.6	3H
880745 .		<u>6</u> / 8126/4	HRS	62.6	71.2	0.28	92.1	12.0	64.0	4H
880746 .		8126/5	HRS	63.5	70.0	0.35	87.3	12.6	62.4	3H
880747 .		8126/6	HRS	63.9	69.9	0.31	89.1	12.5	62.5	2H
880748 .		8126/7	HRS	62.8	71.9	0.34	89.9	13.6	63.5	3H
880749 .		<u>5</u> / 8126/8	HRS	64.1	73.5	0.35	91.1	12.6	64.7	3H
880750 .		8126/9	HRS	64.9	75.1	0.38	91.2	11.2	63.7	4M
880751 .		8126/10	HRS	63.5	72.6	0.37	88.7	11.0	64.5	3H
880752 .		8126/11	HRS	63.8	70.4	0.35	87.6	12.6	62.7	2H
880753 .		<u>6</u> / 8126/12	HRS	63.8	71.9	0.33	90.2	12.9	61.6	3H
880754 .		8126/13	HRS	63.0	71.4	0.37	87.5	12.9	63.4	3H
880755 .		<u>6</u> / 8126/14	HRS	65.0	72.0	0.37	88.0	12.2	65.6	5H

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PULLMAN, WA.

COMMON SPRING WHEAT TRIAL

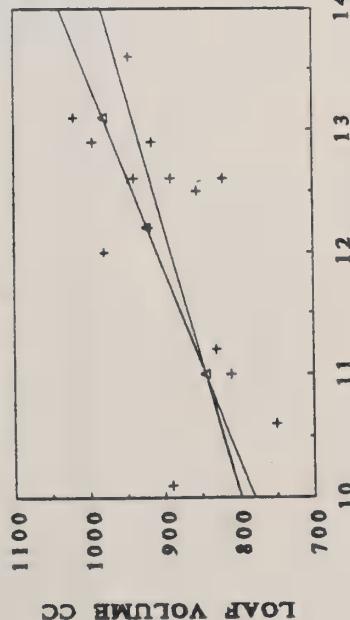
C.O. QUALSET

TULELAKE, CA

NURSCO 27

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880742 .		8126/1	HWS	62.7	64.6	2.0	890	1008		4 P-MTIME, Q-BCRGR
880743 ANZA		8126/2	HRS	62.2	63.6	1.2	750	837		8
880744 YECORA ROJO		8126/3	HRS	67.4	66.3	3.3	1020	952		2
880745 .		8126/4	HRS	65.7	65.7	3.6	980	980		2 Q-FYELD
880746 .		8126/5	HRS	64.7	64.1	3.5	890	853		3 Q-FYELD, LVOL, BCRGR
880747 .		8126/6	HRS	64.7	64.2	2.2	855	824		5 P-FYELD, MTIME, LVOL, BCRGR
880748 .		8126/7	HRS	66.8	65.2	2.2	945	846		3 P-MTIME, Q-LVOL, BCRGR
880749 .		8126/8	HRS	67.0	66.4	2.8	940	903		2
880750 .		8126/9	HRS	64.1	64.9	2.2	830	880		5 P-MTIME, LVOL, BCRGR
880751 .		8126/10	HRS	64.7	65.7	2.3	810	872		5 P-MTIME, LVOL, BCRGR
880752 .		8126/11	HRS	65.0	64.4	2.4	820	783		6 P-MTIME, LVOL, BCRGR
880753 .		8126/12	HRS	64.2	63.3	3.3	995	939		4 Q-BCRGR
880754 .		8126/13	HRS	66.0	65.1	2.6	915	859		5 P-MTIME, LVOL, BCRGR
880755 .		8126/14	HRS	67.5	67.3	3.9	920	908		3

LOAF VOLUME VS PROTEIN
COMMON SPRING WHEAT - TULELAKE, CA



PROTEIN %

+ EXP CROSSES * EXPECTED

COMMENTS: See "Remarks" for major deficiencies of the selections not footnoted or promising.

C.O. QUALSET

TULELAKE, CA

NURSCO 28

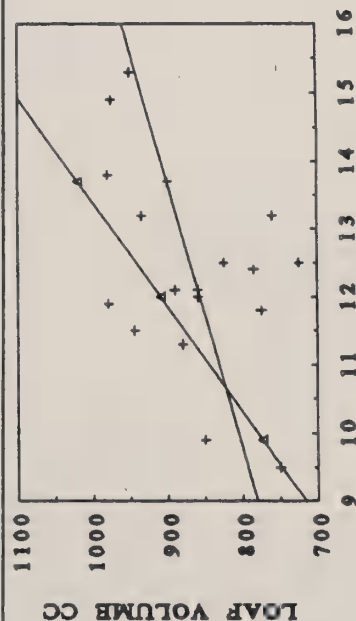
LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880756 .	CHEYENNE	8127/1	HRW	62.5	49.0	0.37	64.1	15.3	63.6	2H
880757 .		8127/2	HRW	63.2	47.5	0.33	64.5	13.7	62.9	2H
880758		8127/3	HRW	64.4	72.3	0.30	92.1	12.4	62.1	6M
880759 .		8127/4	HRW	65.0	69.8	0.31	88.9	12.5	63.2	2H
880760 .		<u>6</u> /8127/5	HRW	63.5	71.1	0.31	90.4	12.1	64.1	4M
880761 .		8127/6	HRW	63.1	69.6	0.30	89.5	13.2	61.0	1H
880762 .		8127/7	HRW	63.6	70.1	0.30	89.9	12.5	63.0	3M
880763 .		8127/8	HRW	63.9	69.6	0.32	88.4	11.8	65.1	4H
880764 .		8127/9	HRW	63.4	66.7	0.32	85.2	12.1	63.1	2H
880765 .		8127/10	HRW	64.7	72.1	0.32	90.8	9.5	62.7	7M
880766 .		8127/11	HRW	64.2	71.7	0.32	90.7	12.0	62.5	2H
880767 .		<u>5</u> /8127/12	HRW	63.3	71.8	0.32	90.7	11.5	63.7	4M
880768 .		8127/13	HRW	62.9	72.3	0.32	91.1	9.9	61.2	4M
880769 .		8127/14	HRW	63.1	71.3	0.31	90.4	13.2	61.9	2H
880770 .		<u>5</u> /8127/15	HRW	63.7	72.2	0.32	91.0	11.9	64.1	4H
880771 .		8127/16	HRW	65.2	69.7	0.31	89.1	11.3	63.5	3M
880772 .		8127/17	HRW	62.1	67.9	0.31	86.9	13.8	63.8	3H
880773 .		8127/18	HRW	62.0	68.2	0.34	85.8	14.9	65.9	4H

NURSCO 28

TULELAKE, CA

C.O. QUALSET

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880756 .	CHEYENNE	8127/1	HRW	65.6	62.3	1.5	950	745	6	P-MTIME, LVOL, BCRGR
880757 .		8127/2	HRW	63.8	62.1	1.9	900	795	2	P-MTIME, LVOL, BCRGR
880758		8127/3	HRW	63.7	63.3	2.8	785	760	4	
880759 .		8127/4	HRW	63.9	63.4	1.7	725	694	8	P-MTIME, LVOL, BCRGR
880760 .		8127/5	HRW	64.9	64.8	2.4	890	884	4	Q-BCRGR
880761 .		8127/6	HRW	62.4	61.2	1.4	760	686	9	P-MTIME, LVOL, BCRGR
880762 .		8127/7	HRW	65.2	64.7	1.9	825	794	7	P-MTIME, LVOL, BCRGR
880763 .		8127/8	HRW	66.6	66.8	2.4	775	787	7	P-LVOL, BCRGR
880764 .		8127/9	HRW	63.4	63.3	1.8	860	854	8	P-FYELD, MTIME, BCRGR
880765 .		8127/10	HRW	60.9	63.4	3.2	750	905	8	P-BCRGR
880766 .		8127/11	HRW	62.7	62.7	1.9	860	860	8	P-MTIME, BCRGR
880767 .		8127/12	HRW	63.9	64.4	3.6	945	976	3	
880768 .		8127/13	HRW	59.8	61.9	2.8	850	980	7	P-BCRGR
880769 .		8127/14	HRW	63.3	62.1	1.8	935	861	7	P-MTIME, BCRGR
880770 .		8127/15	HRW	64.7	64.8	3.4	980	986	1	
880771 .		8127/16	HRW	62.0	62.7	2.0	880	923	7	P-MTIME, BCRGR
880772 .		8127/17	HRW	66.3	64.5	2.3	980	868	5	P-FYELD, MTIME, BCRGR
880773 .		8127/18	HRW	69.5	66.6	3.1	975	795	2	Q-FYELD, LVOL



COMMENTS: Cheyenne, which has been traditionally low in loaf volume, preformed below normal. Selections 8127/1 and 2 were break flour only. The reduction flour was lost. Protein varied widely. Most had poor loaf volumes for their protein content (See accompanied plot). Selections 8127/12 and 15 are outstanding in both milling and baking quality.

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PULLMAN, WA.

COMMON A-B WINTER WHEAT (2ND PLANTING)

C.O. QUALSET

TULELAKE, CA

NURSCO 29

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
880774 .		8125/1	HRW	62.4	71.7	0.35	88.9	13.0	63.3	1H
880775 .		8125/2	HRW	61.8	68.9	0.33	87.1	12.6	65.1	4M
880776 CHEYENNE		8125/3	HRW	60.8	72.0	0.36	88.7	12.3	66.5	3H
880777 .		8125/4	HRW	64.0	70.2	0.23	93.7	12.5	64.1	2H
880778 .		<u>6/</u> 8125/5	HRW	62.0	72.2	0.28	93.1	11.4	65.3	4M
880779 .		8125/6	HRW	62.8	70.4	0.30	90.2	13.2	62.2	1H
880780 .		8125/7	HRW	62.4	70.4	0.29	90.8	12.3	64.2	2H
880781 .		<u>6/</u> 8125/8	HRW	62.8	71.2	0.32	90.0	11.6	64.7	4H
880782 .		8125/9	HRW	62.0	67.7	0.33	85.8	11.4	64.1	3M
880783 .		<u>6/</u> 8125/10	HRW	63.6	70.9	0.30	90.7	10.8	64.3	4M
880784 .		8125/11	HRW	63.2	70.4	0.34	88.1	11.0	65.0	2M
880785 .		<u>6/</u> 8125/12	HRW	62.8	73.1	0.39	88.4	10.8	63.5	3M
880786 .		8125/13	HRW	61.8	72.5	0.38	88.2	9.7	64.0	4M
880787 .		8125/14	HRW	63.2	72.3	0.31	91.7	12.0	65.2	3M
880788 .		<u>6/</u> 8125/15	HRW	63.2	72.4	0.35	89.6	11.5	66.0	5H
880789 .		8125/16	HRW	64.6	70.4	0.37	86.6	10.8	62.2	2M
880790 .		<u>6/</u> 8125/17	HRW	62.4	70.4	0.35	87.6	12.1	65.7	4M
880791 .		<u>6/</u> 8125/18	HRW	62.8	71.3	0.35	88.5	13.8	66.9	5H

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 12% Protein

4/ Observed Values Corrected to 12% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

COMMON A-B WINTER WHEAT (2ND PLANTING)

C.O. QUALSET

TULELAKE, CA

NURSCO 29

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC 3/	MTIME	LVOL	LVOLC 4/	BCRGR	RMKS
880774 .	CHEYENNE	8125/1	HRW	64.5	63.5	1.7	990	928	3	P-MTIME, Q-LVOL
880775 .		8125/2	HRW	66.4	65.8	2.2	930	893	5	P-MTIME, Q-LVOL
880776 .		8125/3	HRW	67.5	67.2	2.8	960	941	3	
880777 .		8125/4	HRW	65.3	64.8	1.7	815	784	7	P-MTIME, LVOL, BCRGR
880778 .		8125/5	HRW	65.4	66.0	2.5	935	972	4	Q-BCRGR
880779 .		8125/6	HRW	63.6	62.4	1.3	915	841	8	P-MTIME, LVOL, BCRGR
880780 .		8125/7	HRW	65.2	64.9	1.9	925	906	4	P-MTIME, Q-BCRGR
880781 .		8125/8	HRW	65.0	65.4	2.8	890	915	6	Q-BCRGR
880782 .		8125/9	HRW	64.2	64.8	1.9	850	887	8	P-MTIME, FYELD, BCRGR
880783 .		8125/10	HRW	63.8	65.0	2.8	860	934	6	Q-BCRGR
880784 .		8125/11	HRW	63.7	64.7	2.1	860	922	8	P-MTIME, BCRGR
880785 .		8125/12	HRW	62.5	63.7	2.4	920	994	5	Q-BCRGR
880786 .		8125/13	HRW	62.4	64.7	3.1	870	1013	7	Q-P-BCRGR
880787 .		8125/14	HRW	65.4	65.4	2.3	915	915	4	Q-MTIME, BCRGR
880788 .		8125/15	HRW	66.2	66.7	4.1	1005	1036	5	Q-BCRGR
880789 .		8125/16	HRW	61.7	62.9	2.2	835	909	9	P-BCRGR, Q-MTIME
880790 .		8125/17	HRW	66.5	66.4	2.9	970	964	5	Q-BCRGR
880791 .		8125/18	HRW	69.4	67.6	4.2	985	873	2	Q-LVOL

COMMENTS: Several of these selections are noted as promising but each have some questionable property which should be cautiously considered. This is a re-milling to replace evaluations previously done. Note: that the protein content of this set of wheats are 1-2% lower than samples submitted earlier.

USDA, SEA AR
WESTERN WHEAT QUALITY LAB:
PULLMAN, WA.

COMMON A-B WINTER WHEAT (2ND PLANTING)

C.O. QUALSET

TULELAKE, CA

NURSCO 29

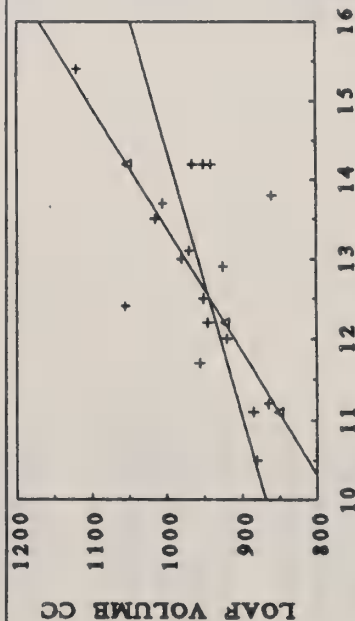
LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880774 .	CHEYENNE	8125/1	HRW	63.2	51.6	0.37	66.9	14.2	66.4	2H
880775 .		8125/2	HRW	62.3	52.0	0.40	65.9	14.2	65.6	2H
880776 .		8125/3	HRW	63.6	50.8	0.36	66.7	12.9	65.8	4H
880777 .		8125/4	HRW	65.3	46.9	0.39	61.0	13.8	64.6	2H
880778 .		6/ 8125/5	HRW	63.6	50.9	0.35	67.2	12.2	66.3	3H
880779 .		8125/6	HRW	64.1	49.7	0.34	66.6	14.2	63.6	2H
880780 .		8125/7	HRW	64.8	49.4	0.33	66.8	13.0	66.3	2H
880781 .		6/ 8125/8	HRW	64.2	49.6	0.35	65.9	12.5	66.8	4H
880782 .		8125/9	HRW	63.4	46.8	0.34	63.4	13.1	66.5	2H
880783 .		6/ 8125/10	HRW	64.7	50.4	0.33	67.8	11.1	68.3	6M
880784 .		8125/11	HRW	64.8	49.8	0.33	67.2	11.2	66.1	3H
880785 .		6/ 8125/12	HRW	64.0	51.3	0.36	67.2	11.7	66.7	3H
880786 .		6/ 8125/13	HRW	62.9	51.1	0.35	67.5	10.5	64.4	6M
880787 .		8125/14	HRW	64.2	53.8	0.34	70.9	13.7	66.0	2H
880788 .		6/ 8125/15	HRW	64.6	51.5	0.37	66.9	12.4	68.6	5H
880789 .		8125/16	HRW	65.6	48.5	0.33	65.8	12.0	64.4	3M
880790 .		6/ 8125/17	HRW	63.9	50.0	0.34	66.8	13.5	68.4	4H
880791 .		6/ 8125/18	HRW	64.2	50.3	0.34	67.2	15.4	72.1	6H

NURSCO 29

TULELAKE, CA

C.O. QUALSET

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880774 .	CHEYENNE	8125/1	HRW	68.3	67.1	1.5	940	866		3 P-MTIME, LVOL
880775 .		8125/2	HRW	67.5	66.3	2.1	965	891		5 P-MTIME, LVOL, BCRGR
880776 .		8125/3	HRW	66.4	66.5	3.3	925	931		2
880777 .		8125/4	HRW	65.6	64.8	1.7	860	810		6 P-MTIME, LVOL, BCRGR
880778 .		8125/5	HRW	66.2	67.0	2.5	945	995		3 Q-BCRGR
880779 .		8125/6	HRW	65.5	64.3	1.4	950	876		6 P-MTIME, LVOL, BCRGR
880780 .		8125/7	HRW	67.0	67.0	2.0	980	980		3 P-MTIME, Q-BCRGR
880781 .		8125/8	HRW	67.0	67.5	2.6	950	981		3 Q-BCRGR
880782 .		8125/9	HRW	67.3	67.2	1.9	970	964		4 P-MTIME, Q-BCRGR
880783 .		8125/10	HRW	67.1	69.0	3.2	885	1003		3 Q-BCRGR
880784 .		8125/11	HRW	65.0	66.8	2.4	865	977		4 Q-MTIME, BCRGR
880785 .		8125/12	HRW	66.8	68.1	2.9	955	1036		3
880786 .		8125/13	HRW	63.6	66.1	3.4	880	1035		3
880787 .		8125/14	HRW	66.4	65.7	1.9	1005	962		2 P-MTIME
880788 .		8125/15	HRW	68.7	69.3	4.7	1055	1092		2
880789 .		8125/16	HRW	64.1	65.1	2.1	920	982		6 P-MTIME, BCRGR
880790 .		8125/17	HRW	70.1	69.6	3.3	1015	984		2
880791 .		8125/18	HRW	74.7	72.3	6.7	1120	971		2



COMMENTS: Due to an error in the milling procedure, the reduction flour was lost, therefore, the analysis of the flour was done only on the break flour. This may result in making the baking data appear better than it should. Several of these lines appear good in baking performance. See "Remarks".

PROTEIN %
+ EXP CROSSES Δ EXPECTED

S.L. BROICH

MADRAS, OR

NURSCO 30

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880792 ORCR8313		1-1-10S	HRW	63.7	66.9	0.41	75.1	7.1	63.5	6L
880793 ORCR8313		1-2-11S	HRW	64.0	68.0	0.40	78.8	8.1	62.5	6M
880794 ORCR8313		1-3-12S	HRW	64.2	68.3	0.38	80.9	8.3	62.8	7M
880795 ORCR8313		<u>6/</u> 1-4-13S	HRW	63.8	69.7	0.37	82.6	9.5	60.6	4M
880796 ORCR8313		1-5-13NS	HRW	63.6	71.2	0.37	84.7	10.5	61.1	4M
880797 ORCR8313		1-6-14S	HRW	63.7	69.5	0.39	82.2	9.8	60.5	4M
880798 ORCR8313		1-7-14NS	HRW	63.2	70.3	0.39	83.5	10.3	60.1	3H
880799 ORCR8313		6/ 1-8-15NS	HRW	63.7	70.3	0.40	81.2	11.2	61.6	3H
880800 ORCR8313		1-9-15S	HRW	63.6	67.2	0.39	77.4	8.2	62.6	5L
880801 ORCR8313		<u>6/</u> 1-10-16NS	HRW	63.6	71.8	0.40	83.9	11.3	61.2	3H
880802 ORCR8313		<u>6/</u> 1-11-16S	HRW	63.5	70.8	0.39	84.1	11.8	60.9	3H
880803 ORCR8313		1-12-17S	HRW	63.4	70.6	0.39	84.3	11.4	61.4	3H
880804 ORCR8602		2-1-10S	HRW	62.1	67.6	0.41	78.1	7.5	61.5	4L
880805 ORCR8602		2-2-11S	HRW	62.6	67.1	0.40	76.1	8.9	61.9	7M
880806 ORCR8602		2-3-12S	HRW	63.2	69.2	0.40	79.0	8.7	62.7	4M
880807 ORCR8602		2-4-13S	HRW	62.8	68.6	0.40	78.8	9.4	61.7	4M
880808 ORCR8602		2-5-13NS	HRW	63.2	68.1	0.39	78.4	9.3	63.0	6M
880809 ORCR8602		2-6-14S	HRW	62.9	67.9	0.38	79.2	9.6	62.3	6M
880810 ORCR8602		2-7-14NS	HRW	62.5	68.4	0.39	78.3	9.9	61.9	3H
880811 ORCR8602		2-8-15S	HRW	63.2	69.1	0.43	75.7	10.9	60.2	2H
880812 ORCR8602		2-9-15NS	HRW	63.2	68.6	0.44	76.0	11.7	60.6	3H
880813 ORCR8602		2-10-16S	HRW	62.2	65.8	0.46	66.2	11.9	60.8	3H
880814 STEPHENS		3-1-9S	SHW	60.6	72.4	0.42	82.2	7.3	53.1	2L
880815 STEPHENS		3-2-10S	SHW	60.7	72.8	0.43	82.4	8.2	51.8	2L
880816 STEPHENS		3-3-11S	SHW	61.7	70.6	0.40	80.6	8.6	50.9	1M
880817 STEPHENS		3-4-11NS	SHW	61.4	72.1	0.40	81.9	9.2	51.0	1M
880818 STEPHENS		3-5-12S	SHW	60.9	72.2	0.44	80.1	9.9	51.1	1M
880819 STEPHENS		3-6-13S	SHW	60.6	71.6	0.42	80.3	10.7	51.3	1M

NURSCO 30

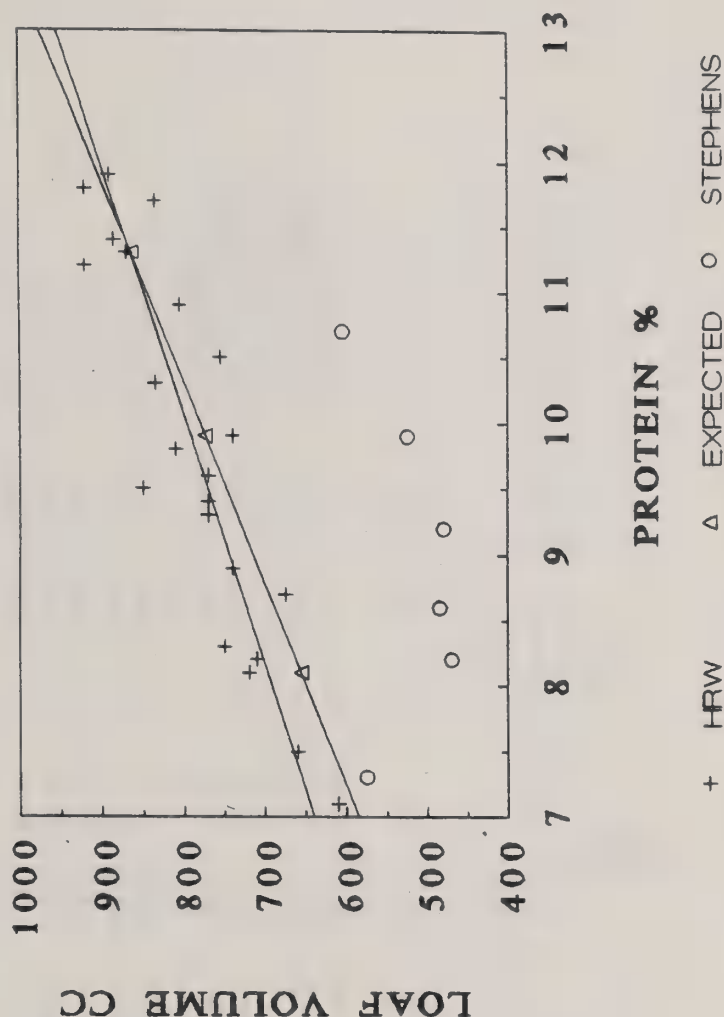
MADRAS, OR

S.L. BROICH

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880792 ORCR8313		1-1-10S	HRW	62.3	65.2	3.6	610	790	8	P-FYELD, BCRGR
880793 ORCR8313		1-2-11S	HRW	61.8	63.7	3.7	720	838	6	Q-FYELD, BCRGR
880794 ORCR8313		1-3-12S	HRW	63.8	65.5	4.1	750	855	5	Q-FYELD, BCRGR
880795 ORCR8313		1-4-13S	HRW	62.8	63.3	3.2	850	881	4	Q-BCRGR
880796 ORCR8313		1-5-13NS	HRW	63.3	62.8	2.8	755	724	5	Q-LVOL, BCRGR
880797 ORCR8313		1-6-14S	HRW	62.0	62.2	3.5	810	822	6	Q-BCRGR
880798 ORCR8313		1-7-14NS	HRW	62.1	61.8	3.6	835	816	8	P-BCRGR
880799 ORCR8313		1-8-15NS	HRW	64.5	63.3	2.6	920	846	4	Q-BCRGR
880800 ORCR8313		1-9-15S	HRW	62.5	64.3	3.6	710	822	9	P-FYELD, BCRGR
880801 ORCR8313		1-10-16NS	HRW	64.2	62.9	2.3	870	789	5	Q-BCRGR, MTIME
880802 ORCR8313		1-11-16S	HRW	65.4	63.6	2.5	920	808	4	Q-BCRGR, MTIME
880803 ORCR8313		1-12-17S	HRW	65.5	64.1	2.4	885	798	5	Q-BCRGR
880804 ORCR8602		2-1-10S	HRW	61.7	64.2	4.1	660	815	9	P-FYELD, BCRGR
880805 ORCR8602		2-2-11S	HRW	63.5	64.6	3.5	740	808	8	P-FYELD, BCRGR
880806 ORCR8602		2-3-12S	HRW	64.1	65.4	3.6	675	756	9	Q-FYELD, P-BCRGR
880807 ORCR8602		2-4-13S	HRW	63.8	64.4	3.4	770	807	8	P-FYELD, BCRGR
880808 ORCR8602		2-5-13NS	HRW	65.0	65.7	3.2	770	813	9	P-FYELD, BCRGR
880809 ORCR8602		2-6-14S	HRW	64.6	65.0	3.3	770	795	8	P-FYELD, BCRGR
880810 ORCR8602		2-7-14NS	HRW	64.5	64.6	3.2	740	746	8	P-FYELD, BCRGR
880811 ORCR8602		2-8-15S	HRW	63.8	62.9	2.5	805	749	8	P-BCRGR
880812 ORCR8602		2-9-15NS	HRW	65.0	63.3	2.8	835	730	5	Q-BCRGR
880813 ORCR8602		2-10-16S	HRW	65.4	63.5	2.9	890	772	4	P-FYELD, Q-BCRGR
880814 STEPHENS		3-1-9S	SWW	52.1	54.8	1.8	575	737	9	P-Bread Quality
880815 STEPHENS		3-2-10S	SWW	51.7	53.5	1.4	470	578	9	P-Bread Quality
880816 STEPHENS		3-3-11S	SWW	51.2	52.6	1.2	485	569	9	P-Bread Quality
880817 STEPHENS		3-4-11NS	SWW	51.9	52.7	1.2	480	528	9	P-Bread Quality
880818 STEPHENS		3-5-12S	SWW	52.7	52.8	1.2	525	531	9	P-Bread Quality
880819 STEPHENS		3-6-13S	SWW	53.7	53.0	1.1	605	563	9	P-Bread Quality

NURSCO 30

LOAF VOLUME VS PROTEIN MADRAS FERTILITY TRIAL



Statistics	Graph A
Size	22
Total	17290
Mean	785.909091
Maximum	920
Minimum	610
Standard Dev.	84.510303
Standard Error	18.017657
95% Confidence	35.314608
99% Confidence	46.485556
a0	272.795785
a1	52.431457
a2	0
a3	0
a4	0
a5	0
a6	0
Rval	0.893811

COMMENTS:

These samples of ORCR 8313 grown in a fertilizer trial at Madras, OR are characterized by low flour yield and generally questionable-poor bread crumb grain. A plot (page 2) of loaf volume vs protein content indicate these have relatively good loaf volumes over the protein range. At the lower proteins (7-10%) they are better than expected, which made a low regression slope of 52.4cc of loaf volume/1% protein (See Statistics). Normal expected is 65cc. It would have been helpful to judge the baking quality with better confidence had a HRW check variety been grown with them. The Stephens samples are not useful. Those footnoted as promising (6/) are the better findings, but should be regarded with some caution.

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

PENDLETON FERTILITY TRIAL

S.L. BROICH

NURSCO 31

PENDLETON, OR

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880820 ORCR8313		1-1-P1	HRW	65.5	62.4	3.5	985	793		2
880821 ORCR8313		1-2-P6	HRW	62.7	63.2	3.2	770	801		5 Q-BCRGR
880822 ORCR8313		1-3-P9	HRW	61.7	62.1	4.4	815	840		7 Q-BCRGR
880823 ORCR8313		1-4-P10	HRW	62.7	61.6	3.6	860	792		3
880824 ORCR8313		1-5-P11	HRW	59.1	60.6	4.3	700	793		8 P-BCRGR
880825 ORCR8313		1-6-P16	HRW	63.6	61.8	4.0	875	763		4 Q-BCRGR
880826 ORCR8313		2-1-R711	HRW	62.6	63.6	3.7	630	692		8 P-LVOL, BCRGR
880827 ORCR8313		2-2-R715	HRW	65.1	65.3	4.2	680	692		7 P-LVOL, BCRGR
880828 ORCR8313		2-3-R727	HRW	64.3	64.5	4.5	640	652		8 P-LVOL, BCRGR
880829 ORCR8313		2-4-R738	HRW	65.3	65.4	3.7	760	766		6 Q-BCRGR
880830 ORCR8313		2-5-R873	HRW	63.5	63.5	4.1	805	805		6 Q-BCRGR

COMMENTS: These samples of ORCR 8313 were grown with varying fertilizer treatment at Pendleton, OR. Loaf volumes responded as expected with protein content, but with some wide variation at the lower (8-10%) levels. A good HRW check would have been useful for comparative purposes to lend meaning to these analysis.

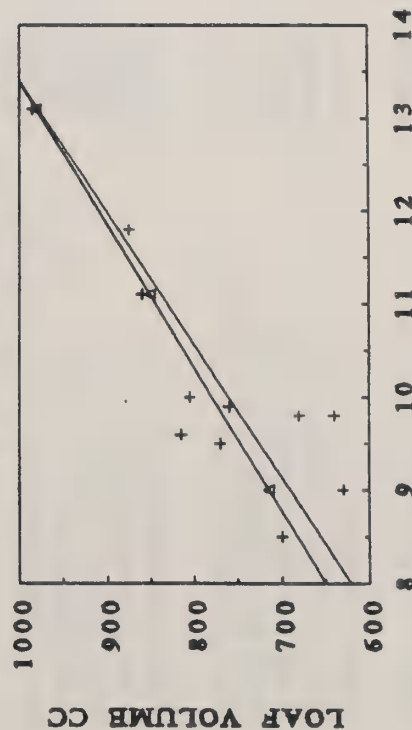
S.L. BROICH

NURSCO 31

PENDLETON, OR

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880820 ORCR8313		6/1-1-P1	HRW	60.5	70.8	0.39	81.7	13.1	61.7	4H
880821 ORCR8313		1-2-P6	HRW	62.8	70.2	0.39	80.3	9.5	61.5	7M
880822 ORCR8313		1-3-P9	HRW	62.6	70.6	0.38	83.8	9.6	60.4	7M
880823 ORCR8313		6/1-4-P10	HRW	61.6	70.6	0.38	83.8	11.1	59.9	6M
880824 ORCR8313		1-5-P11	HRW	63.8	69.1	0.38	81.7	8.5	58.9	6L
880825 ORCR8313		1-6-P16	HRW	60.8	70.0	0.37	83.1	11.8	60.1	4H
880826 ORCR8313		2-1-R711	HRW	65.5	69.7	0.41	80.7	9.0	61.9	7M
880827 ORCR8313		2-2-R715	HRW	65.8	70.8	0.41	82.4	9.8	63.6	6M
880828 ORCR8313		2-3-R727	HRW	65.8	70.2	0.41	81.4	9.8	62.8	6M
880829 ORCR8313		2-4-R738	HRW	65.6	70.1	0.41	81.6	9.9	63.7	4H
880830 ORCR8313		2-5-R873	HRW	62.1	70.0	0.37	83.6	10.0	61.8	4H

LOAF VOLUME VS PROTEIN
PENDLETON FERTILITY TRIAL



PROTEIN %

+ ORCR8313 Δ EXPECTED

Statistics	Graph A
Size	11
Total	8520
Mean	774.545455
Maximum	985
Minimum	630
Standard Dev.	108.615251
Standard Error	32.74873
95% Confidence	64.187511
99% Confidence	84.491724
a0	62.166319
a1	65.903391
a2	0
a3	0
a4	0
a5	0
a6	0
Rval	0.849172

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

PRELIMINARY HARD RED SPRING

C.F. KONZAK

ROYAL SLOPE, WA

NURSCO 32

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880831	KNC00030 S. 14	<u>6</u> /CZ84038	HRS	65.6	72.7	0.34	90.5	11.1	62.7	3H
880832	KNC00030 S. 18	CZ84038	HRS	64.5	72.2	0.35	89.7	10.4	61.9	3H
880833	KNC00030 S. 19	CZ84038	HRS	64.5	72.7	0.35	90.0	11.7	62.4	3H
880834	KNC00030 S. 22	<u>5</u> /CZ84038	HRS	64.5	73.4	0.33	91.7	10.8	63.0	3H
880835	KNC00030 S. 25	<u>6</u> /CZ84038	HRS	63.4	73.6	0.34	91.4	11.2	62.0	3H
880836	KNC00030 S. 32	CZ84038	HRS	63.6	72.4	0.36	89.4	12.3	61.7	2H
880837	KNC00030 S. 34	<u>5</u> /CZ84038	HRS	64.9	73.7	0.33	92.3	11.4	62.6	4H
880838	KNC00030 S. 36	CZ84038	HRS	65.3	72.6	0.33	90.9	11.0	61.3	2H
880839	KNC00030 S. 11	<u>6</u> /CZ84038	HRS	66.5	72.9	0.34	90.5	10.6	60.9	3H
880840	KNC00030 S. 17	<u>6</u> /CZ84038	HRS	65.8	72.0	0.33	90.3	11.2	61.8	3H
880841	KNC00030 S. 22	<u>5</u> /CZ84038	HRS	64.9	73.0	0.33	91.3	11.2	62.5	3H
880842	KNC00030 S. 24	<u>5</u> /CZ84038	HRS	65.7	72.8	0.32	91.6	11.8	62.9	3H
880843	KNC00030 S. 30	CZ84038	HRS	65.4	72.4	0.32	91.3	11.7	61.9	3H
880844	KNC00030 S. 23	<u>6</u> /CZ84038	HRS	63.5	71.4	0.34	89.1	11.1	63.1	4H
880845	MCKAY	C1017903	HRS	63.8	72.1	0.33	90.5	10.2	61.7	7M
880846	ID000277/KNC00030 S. 44	CZ84039	HRS	64.5	73.1	0.30	93.2	11.3	62.4	8M
880847	ID000277/KNC00030 S. 45	CZ84039	HRS	65.1	73.1	0.31	92.3	11.8	61.3	3H
880848	ID000277/KNC00030 S. 115	CZ84039	HRS	64.3	72.3	0.31	91.7	11.3	62.9	3H
880849	ID000277/KNC00030 S. 146	CZ84039	HRS	65.5	70.5	0.34	88.2	11.4	63.4	3H
880850	ID000277/KNC00030 S. 155	<u>6</u> /CZ84039	HRS	65.4	72.9	0.33	91.4	10.5	61.9	8M
880851	ID000277/KNC00030 S. 156	CZ84039	HRS	66.0	72.1	0.31	91.4	10.9	60.7	3H
880852	ID000277/KNC00030 S. 159	CZ84039	HRS	65.5	71.5	0.31	90.9	12.4	60.7	2H
880853	ID000277/KNC00030 S. 170	CZ84039	HRS	66.5	71.1	0.33	89.6	10.8	62.3	3H
880854	ID000277/KNC00030 S. 14	<u>6</u> /CZ84039	HRS	65.9	72.0	0.33	90.2	11.0	63.1	3H
880855	ID000277/KNC00030 S. 125	CZ84039	HRS	64.5	73.2	0.32	91.9	11.1	61.2	6M
880856	ID000277/KNC00030 S. 144	CZ84039	HRS	65.5	70.8	0.31	89.9	10.8	61.5	3H
880857	ID000277/KNC00030 S. 179	CZ84039	HRS	65.3	71.5	0.30	91.3	11.9	64.1	3H
880858	ID000277/KNC00030 S. 195	CZ84039	HRS	64.4	73.3	0.32	92.4	11.6	63.7	4H
880859	ID000277/KNC00030 S. 71	<u>5</u> /CZ84039	HRS	66.8	72.9	0.29	93.3	11.5	62.0	4M
880860	ID000277/KNC00030 S. 88	CZ84039	HRS	66.0	71.4	0.31	90.9	10.5	62.0	4M

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

PRELIMINARY HARD RED SPRING

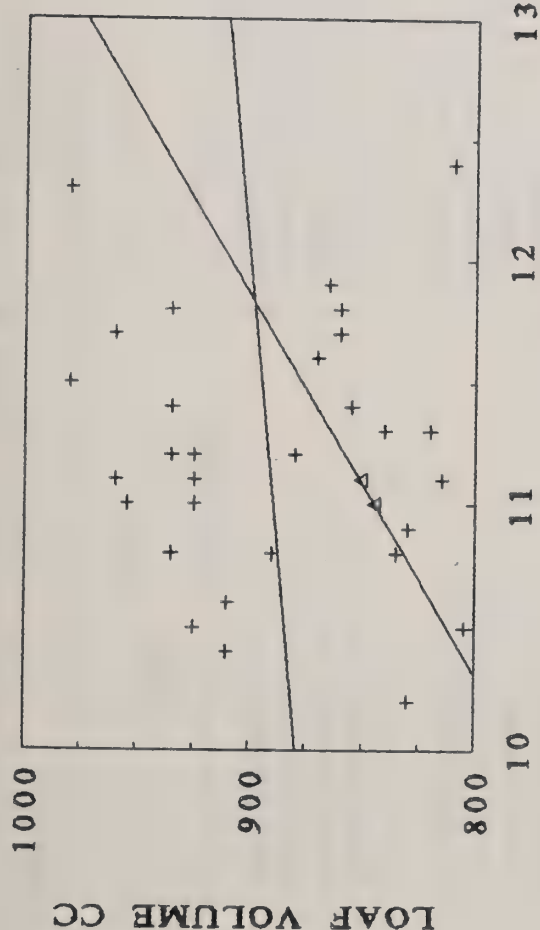
C.F. KONZAK

ROYAL SLOPE, WA

NURSCO 32

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880831	KNC00030 S. 14	CZ84038	HRS	64.5	64.4	3.7	960	954	5	Q-BCRGR
880832	KNC00030 S. 18	CZ84038	HRS	63.0	63.6	2.6	910	947	5	Q-BCRGR, MTIME
880833	KNC00030 S. 19	CZ84038	HRS	64.8	64.1	2.5	960	917	5	Q-BCRGR, MTIME
880834	KNC00030 S. 22	CZ84038	HRS	64.5	64.7	3.2	890	902	2	
880835	KNC00030 S. 25	CZ84038	HRS	63.9	63.7	3.0	925	913	5	Q-BCRGR
880836	KNC00030 S. 32	CZ84038	HRS	64.7	63.4	2.3	980	899	3	Q-MTIME
880837	KNC00030 S. 34	CZ84038	HRS	64.7	64.3	2.9	935	910	2	
880838	KNC00030 S. 36	CZ84038	HRS	63.0	63.0	2.5	925	925	2	Q-MTIME
880839	KNC00030 S. 11	CZ84038	HRS	62.2	62.6	2.9	910	935	4	
880840	KNC00030 S. 17	CZ84038	HRS	63.7	63.5	2.6	880	868	4	
880841	KNC00030 S. 22	CZ84038	HRS	64.4	64.2	3.2	935	923	2	
880842	KNC00030 S. 24	CZ84038	HRS	65.4	64.6	3.1	935	885	2	
880843	KNC00030 S. 30	CZ84038	HRS	64.3	63.6	2.6	860	817	2	Q-MTIME, LVOL
880844	KNC00030 S. 23	CZ84038	HRS	64.9	64.8	3.2	925	919	3	
880845	MCKAY	CI017903	HRS	62.6	63.4	3.2	830	880	5	
880846	ID000277/KNC00030 S. 44	CZ84039	HRS	64.4	64.1	4.5	820	801	4	P-LVOL
880847	ID000277/KNC00030 S. 45	CZ84039	HRS	63.8	63.0	2.9	860	810	4	P-LVOL
880848	ID000277/KNC00030 S. 115	CZ84039	HRS	63.9	63.6	2.4	840	821	2	Q-MTIME, LVOL
880849	ID000277/KNC00030 S. 146	CZ84039	HRS	65.5	65.1	3.0	855	830	6	Q-LVOL, BCRGR
880850	ID000277/KNC00030 S. 155	CZ84039	HRS	63.1	63.6	4.2	925	956	4	
880851	ID000277/KNC00030 S. 156	CZ84039	HRS	62.3	62.4	2.9	830	836	3	Q-LVOL
880852	ID000277/KNC00030 S. 159	CZ84039	HRS	63.8	62.4	2.0	810	723	6	P-FYELD, MTIME, LVOL, BCRGR
880853	ID000277/KNC00030 S. 170	CZ84039	HRS	63.8	64.0	2.4	935	947	6	P-FYELD, MTIME, LVOL, BCRGR
880854	ID000277/KNC00030 S. 14	CZ84039	HRS	64.8	64.8	3.0	955	955	3	
880855	ID000277/KNC00030 S. 125	CZ84039	HRS	63.0	62.9	3.3	815	809	6	P-LVOL, BCRGR
880856	ID000277/KNC00030 S. 144	CZ84039	HRS	63.0	63.2	2.5	835	847	5	Q-FYELD, MTIME, BCRGR
880857	ID000277/KNC00030 S. 179	CZ84039	HRS	67.2	66.3	2.6	865	809	3	Q-FYELD, MTIME, BCRGR
880858	ID000277/KNC00030 S. 195	CZ84039	HRS	66.5	65.9	2.9	870	833	4	P-LVOL
880859	ID000277/KNC00030 S. 71	CZ84039	HRS	64.7	64.2	2.9	980	949	3	
880860	ID000277/KNC00030 S. 88	CZ84039	HRS	63.7	64.2	2.5	805	836	6	Q-FYELD, MTIME, LVOL, BCRGR

LOAF VOLUME VS PROTEIN PRELIMINARY HARD RED SPRING - ROYAL SLP



PROTEIN %

+ EXP CROSSES Δ EXPECTED

COMMENTS: These selections vary significantly in bread baking quality (see above plot). McKay was poorer than expected in bread crumb structure and the experimental selections were judged accordingly.

Statistics	Graph A	Graph B
Size	30	3
Total	26760	2489
Mean	892	829.666667
Maximum	980	851
Minimum	805	793
Standard Dev.	54.116732	31.895663
Standard Error	9.880318	18.41497
95% Confidence	19.365424	36.093341
99% Confidence	25.491221	47.510622
a0	773.282639	133.520548
a1	10.584014	64.657534
a2	0	0
a3	0	0
a4	0	0
a5	0	0
a6	0	0
Rval	0.105019	0.999973

NURSCO 33

ROYAL SLOPE, WA

C.F. KONZAK

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
880861	KNC00020 S. 74	6/ CZ84003	HRS	62.5	73.5	0.37	89.7	11.5	63.2	4M
880862	KNC00020 S. 87	CZ84003	HRS	62.0	70.9	0.36	87.8	10.8	60.5	5M
880863	KNC00020 S. 88	CZ84003	HRS	63.0	74.3	0.38	90.3	11.2	61.1	3M
880864	KNC00020 S. 89	CZ84003	HRS	64.0	70.3	0.37	86.4	11.5	63.7	4M
880865	KNC00020 S. 122	CZ84003	HRS	61.5	71.8	0.40	86.5	10.9	60.8	4M
880866	KNC00020 S. 126	CZ84003	HRS	61.3	72.7	0.43	85.9	10.5	60.5	3M
880867	KNC00020 S. 129	6/ CZ84003	HRS	62.1	72.8	0.37	88.9	12.1	64.1	4H
880868	KNC00020 S. 132	CZ84003	HRS	63.8	71.6	0.37	87.9	11.8	61.7	3M
880869	KNC00020 S. 45	6/ CZ84003	HRS	63.3	72.4	0.41	86.5	10.7	60.2	3M
880870	KNC00020 S. 60	CZ84003	HRS	65.8	71.7	0.37	87.8	10.9	61.6	4M
880871	KNC00020 S. 63	CZ84003	HRS	63.0	71.6	0.36	88.5	12.0	60.8	3M
880872	KNC00020 S. 64	CZ84003	HRS	62.0	70.9	0.37	86.9	11.4	60.7	4M
880873	KNC00020 S. 103	5/ CZ84003	HRS	62.5	73.8	0.38	89.5	12.1	64.2	2H
880874	KNC00020 S. 109	CZ84003	HRS	61.0	69.0	0.38	84.7	12.2	62.8	3M
880875	KNC00020 S. 125	6/ CZ84003	HRS	62.8	71.9	0.36	88.7	11.6	63.6	3H
880876	MCKAY	C1017903	HRS	63.9	73.3	0.36	90.2	10.4	59.8	4M
880877	HP830015/KNC00020 S. 87	6/ CZ84004	HRS	62.5	71.2	0.41	85.3	11.2	61.8	3H
880878	HP830015/KNC00020 S. 94	CZ84004	HRS	62.8	71.9	0.37	88.1	10.5	61.0	3M
880879	HP830015/KNC00020 S. 111	CZ84004	HRS	64.0	69.3	0.36	86.1	12.3	62.8	6M
880880	HP830015/KNC00020 S. 115	CZ84004	HRS	63.2	73.2	0.34	90.9	11.9	61.1	3M
880881	HP830015/KNC00020 S. 136	CZ84004	HRS	63.7	71.5	0.37	87.7	12.0	61.4	3M
880882	HP830015/KNC00020 S. 139	CZ84004	HRS	63.5	71.7	0.40	86.6	10.9	60.1	4M
880883	HP830015/KNC00020 S. 141	6/ CZ84004	HRS	64.2	71.4	0.36	88.1	11.3	60.7	4M
880884	HP830015/KNC00020 S. 144	CZ84004	HRS	63.0	72.7	0.33	90.8	12.2	59.7	3M
880885	HP830015/KNC00020 S. 147	6/ CZ84004	HRS	62.2	72.8	0.36	89.8	11.3	60.5	4M
880886	HP830015/KNC00020 S. 44	CZ84004	HRS	62.0	70.4	0.38	86.3	11.3	59.6	3M
880887	HP830015/KNC00020 S. 47	CZ84004	HRS	62.8	70.4	0.35	87.7	11.0	58.1	3M
880888	HP830015/KNC00020 S. 82	CZ84004	HRS	64.3	70.0	0.34	87.9	11.8	61.5	3H
880889	HP830015/KNC00020 S. 87	CZ84004	HRS	62.8	71.7	0.33	89.8	12.5	60.8	3M
880890	HP830015/KNC00020 S. 93	CZ84004	HRS	63.8	71.6	0.37	87.7	11.3	60.6	3M

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

PRELIMINARY HARD RED SPRING

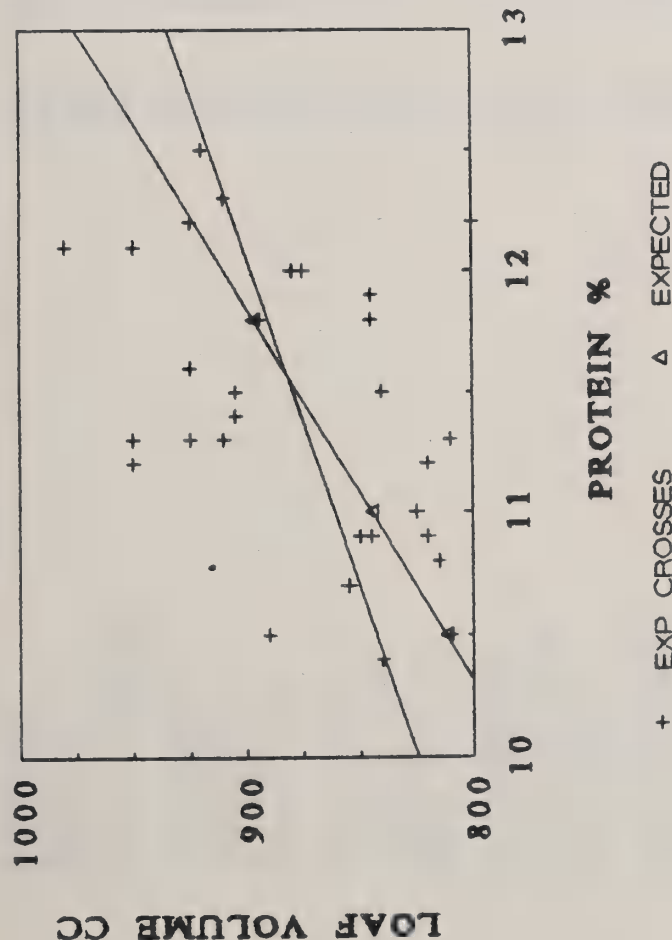
C.F. KONZAK

ROYAL SLOPE, WA

NURSCO 33

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
880861	KNC00020 S. 74	CZ84003	HRS	65.4	64.9	3.6	905	874	3	Equal McKay
880862	KNC00020 S. 87	CZ84003	HRS	62.0	62.2	3.0	815	827	5	Q-FYELD, BCRGR
880863	KNC00020 S. 88	CZ84003	HRS	61.0	60.8	2.2	820	808	5	P-MTIME, BCRGR
880864	KNC00020 S. 89	CZ84003	HRS	65.9	65.4	2.9	840	809	4	Q-FYELD, LVOL
880865	KNC00020 S. 122	CZ84003	HRS	62.4	62.5	3.6	820	826	3	Q-FYELD, LVOL
880866	KNC00020 S. 126	CZ84003	HRS	60.7	61.2	2.2	810	841	5	P-MTIME, Q-BCRGR
880867	KNC00020 S. 129	CZ84003	HRS	66.9	65.8	3.0	980	912	3	
880868	KNC00020 S. 132	CZ84003	HRS	64.2	63.4	1.9	845	795	6	Q-FYELD, LVOL, BCRGR
880869	KNC00020 S. 45	CZ84003	HRS	60.6	60.9	2.8	855	874	6	
880870	KNC00020 S. 60	CZ84003	HRS	63.7	63.8	3.0	850	856	5	Q-FYELD, BCRGR
880871	KNC00020 S. 63	CZ84003	HRS	63.5	62.5	2.4	880	818	4	Q-MTIME, LVOL, BCRGR
880872	KNC00020 S. 64	CZ84003	HRS	63.8	63.4	2.8	905	880	4	Q-FYELD
880873	KNC00020 S. 103	CZ84003	HRS	67.0	65.9	3.0	950	882	2	
880874	KNC00020 S. 109	CZ84003	HRS	64.7	63.5	2.4	925	851	3	P-FYELD, Q-MTIME
880875	KNC00020 S. 125	CZ84003	HRS	65.9	65.3	2.9	925	888	2	Q-FYELD
880876	MCKAY	C1017903	HRS	61.4	62.0	3.3	840	877	4	
880877	HP830015/KNC00020 S. 87	CZ84004	HRS	64.2	64.0	2.9	950	938	3	Q-FYELD
880878	HP830015/KNC00020 S. 94	CZ84004	HRS	61.7	62.2	2.5	890	921	6	Q-FYELD, MTIME, BCRGR
880879	HP830015/KNC00020 S. 111	CZ84004	HRS	66.3	65.0	3.4	910	829	3	P-FYELD
880880	HP830015/KNC00020 S. 115	CZ84004	HRS	63.7	62.8	2.8	845	789	4	P-LVOL
880881	HP830015/KNC00020 S. 136	CZ84004	HRS	63.6	62.6	2.4	875	813	4	Q-MTIME, LVOL, BCRGR
880882	HP830015/KNC00020 S. 139	CZ84004	HRS	63.2	63.3	3.2	845	851	6	Q-BCRGR
880883	HP830015/KNC00020 S. 141	CZ84004	HRS	64.2	63.9	2.9	910	891	4	Q-FYELD
880884	HP830015/KNC00020 S. 144	CZ84004	HRS	62.6	61.4	2.3	800	726	2	P-MTIME, LVOL
880885	HP830015/KNC00020 S. 147	CZ84004	HRS	63.5	63.2	3.0	925	906	4	
880886	HP830015/KNC00020 S. 44	CZ84004	HRS	61.6	61.3	2.3	810	791	6	Q-FYELD, MTIME, LVOL, BCRGR
880887	HP830015/KNC00020 S. 47	CZ84004	HRS	60.8	60.8	2.2	825	825	6	Q-FYELD, MTIME, LVOL, BCRGR
880888	HP830015/KNC00020 S. 82	CZ84004	HRS	64.0	63.2	2.9	895	845	4	Q-FYELD, MTIME, LVOL, BCRGR
880889	HP830015/KNC00020 S. 87	CZ84004	HRS	63.5	62.0	2.4	920	827	4	Q-FYELD, MTIME, LVOL, BCRGR
880890	HP830015/KNC00020 S. 93	CZ84004	HRS	63.1	62.8	2.5	950	931	4	Q-MTIME, FYELD

LOAF VOLUME VS PROTEIN
PRELIMINARY HARD RED SPRING



Statistics	Graph A	Graph B
Size	30	3
Total	26315	2554
Mean	877.166667	851.333333
Maximum	980	897
Minimum	800	812
Standard Dev.	50.713586	42.85246
Standard Error	9.258992	24.740879
95% Confidence	18.147624	48.492124
99% Confidence	23.888199	63.831469
a0	458.205094	125.96124
a1	36.633189	65.348837
a2	0	0
a3	0	0
a4	0	0
a5	0	0
a6	0	0
Total	0.426079	0.799992

COMMENTS: There is a wide range of baking quality within this group of selections (see plot above). McKay was poorer than usual in bread crumb type and the experimental selections were judged accordingly. Note that some selections footnoted as promising have some questionable flour yields.

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
						1/		1/	3/	
880891	WANSER		HRW	64.0	71.8	0.30	91.6	10.6	64.9	4M
880892	STEPHENS		SWW	58.8	69.1	0.41	82.8	10.3	56.5	2M
880893	DAWS		SWW	61.2	68.0	0.37	83.8	9.6	55.4	3M
880894	CHANGTSU 5446		SRW	62.0	61.7	0.35	77.1	12.9	60.5	4M
880895	CHANGTSU 5442		HWW	65.2	73.1	0.31	92.7	10.5	59.2	2M
880896	FENGKAN 8		HWW	60.8	69.0	0.37	85.7	12.5	57.7	2M
880897	CA 837		HWW	60.4	65.2	0.39	80.1	12.9	49.9	1M
880898	CA 8333		HWW	60.8	67.8	0.33	85.9	13.2	57.9	1H
880899	CA 8331		SRW	60.8	56.7	0.31	73.9	11.0	52.4	1H
880900	CA 8422		HWW	59.6	64.6	0.35	81.0	11.2	52.9	1H
880901	CA 8451		SWW	62.4	61.8	0.33	78.5	13.4	52.9	1H
880902	CA 8361		HWW	62.8	67.6	0.32	86.3	13.8	53.0	1H
880903	79 TUNG 84		HRW	60.8	68.9	0.30	88.7	12.6	53.2	1H
880904	NONGDA 146		HRW	60.4	67.1	0.29	87.3	14.7	53.2	1H
880905	TBT 1		HRW	60.4	67.6	0.37	82.6	14.3	52.2	1H
880906	NANGDA 285		HRW	60.4	61.2	0.32	79.6	14.8	51.7	1H
880907	CHIN MAI 67		HRW	64.0	67.8	0.34	85.4	14.7	54.3	1H
880908	JING SWAN 16		HWW	60.4	70.2	0.35	87.4	11.5	54.3	1H
880909	FENGKAN 2		HWW	63.2	71.9	0.38	87.1	12.8	52.9	1H
880910	SUYU 2		HWW	64.4	70.1	0.30	89.9	14.0	61.0	1H
880911	ZHENGZHOU79201		HWW	62.0	70.6	0.44	82.2	12.9	54.1	1H
880912	FUAPEI 28		SWW	60.4	59.1	0.42	69.4	12.2	55.3	1H
880913	YAN 8410		HWW	62.8	69.2	0.35	86.4	12.2	56.1	1H
880914	HSUZHOU 319		HWW	60.4	66.3	0.36	82.8	13.5	54.5	1H
880915	SI 28-5201		HRW	63.2	71.1	0.37	86.3	11.9	53.6	1H
880916	SI 79-022		HRW	63.6	69.8	0.39	84.4	13.5	53.7	1H
880917	SI 34-7085		HRW	59.6	68.8	0.38	84.5	14.7	52.7	1H
880918	P 60-412		HWW	61.2	66.7	0.31	85.8	11.6	56.6	1H
880919	WU SHEN 2		HRW	62.8	67.4	0.36	84.0	14.0	55.8	2H
880920	LANG 8302		HWW	63.2	66.2	0.37	82.3	12.7	53.0	1H

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 12% Protein

4/ Observed Values Corrected to 12% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

C.T. LIU

MOSCOW, ID

NURSCO 34

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC 3/	MTIME	LVOL	LVOLC 4/	BCRGR
880891	WANSER		HRW	63.2	64.6	2.6	850	937	2
880892	STEPHENS		SRW						
880893	DAWS		SRW						
880894	CHANGTSU 5446		HRW	58.4	59.9	1.3	780	873	7
880895	CHANGTSU 5442		HRW						
880896	FENGKAN 8		HRW	58.9	58.4	1.1	760	729	9
880897	CA 837		HRW	53.5	52.6	1.0	575	519	9
880898	CA 8333		HRW	61.8	60.6	1.4	755	681	9
880899	CA 8331		SRW						
880900	CA 8422		HRW	54.8	55.6	1.4	570	620	9
880901	CA 8451		SRW						
880902	CA 8361		HRW	58.5	56.7	1.1	710	598	9
880903	79 TUNG 84		HRW	57.5	56.9	1.4	715	678	9
880904	NONGDA 146		HRW	59.6	56.9	1.1	710	543	9
880905	TBT 1		HRW	58.2	55.9	1.4	785	642	8
880906	NANGDA 285		HRW	58.2	55.4	1.1	540	366	9
880907	CHIN MAI 67		HRW						
880908	JING SWAN 16		HRW						
880909	FENGKAN 2		HRW						
880910	SUYU 2		HRW						
880911	ZHENGZHOU79201		HRW						
880912	FUAPEI 28		SRW						
880913	YAN 8410		HRW						
880914	HSUZHOU 319		HRW						
880915	SI 28-5201		HRW						
880916	SI 79-022		HRW						
880917	SI 34-7085		HRW						
880918	P 60-412		HRW	60.5	58.5	1.8	850	726	7
880919	WU SHEN 2		HRW						
880920	LANG 8302		HRW						

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

IDAHO/CHINESE QUALITY SAMPLES

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LABNUM	VARIETY	IDNO	CLASS	COOI	CODIC 4/	RMKS
880891	WANSER		HRW	8.30	8.19	
880892	STEPHENS		SWW	9.08	8.89	
880893	DAWS		SWW	8.86	8.60	
880894	CHANGTSU 5446		SRW	8.44	8.54	VP-FYELD, Q-CODI
880895	CHANGTSU 5442		HWW	8.20	8.08	P-CODI, P-LVOL, P-BCRGR
880896	FENGKAN 8		HWW	7.87	7.91	Q-FYELD, P-BABS, P-MTIME, P-LVOL, P-BCRGR
880897	CA 837		HWW	8.01	8.08	VP-FYELD, VP-BABS, P-MTIME, P-LVOL, P-BCRGR
880898	CA 8333		HWW	7.93	8.02	P-FYELD, VP-BABS, P-MTIME, P-LVOL, P-BCRGR
880899	CA 8331		SRW	8.51	8.40	VP-FYELD, Q-CODI
880900	CA 8422		HWW	8.15	8.09	VP-FYELD, P-BABS, P-MTIME, P-LVOL, P-BCRGR
880901	CA 8451		SWW	8.45	8.60	VP-FYELD, Q-CODI
880902	CA 8361		HWW	8.24	8.38	P-FYELD, P-BABS, P-MTIME, P-LVOL, P-BCRGR
880903	79 TUNG 84		HRW	8.20	8.25	Q-FYELD, P-BABS, P-MTIME, P-LVOL, P-BCRGR
880904	NONGDA 146		HRW	7.78	7.99	P-FYELD, P-BABS, P-MTIME, P-LVOL, P-BCRGR
880905	TBT 1		HRW	8.00	8.18	P-FYELD, P-BABS, P-MTIME, P-LVOL, P-BCRGR
880906	NANGDA 285		HRW	7.79	8.01	VP-FYELD, P-BABS, P-MTIME, VP-LVOL, P-BCRGR
880907	CHIN MAI 67		HRW	7.78	7.99	P-FYELD, P-CODI
880908	JING SWAN 16		HWW	8.04	8.00	P-MABS, P-CODI
880909	FENGKAN 2		HWW	8.20	8.26	P-MABS, P-CODI
880910	SUYU 2		HWW	8.25	8.41	P-MABS, P-CODI
880911	ZHENGZHOU79201		HWW	8.19	8.26	P-MABS, P-CODI
880912	FUAPEI 28		SWW	8.18	8.20	P-FYELD, P-MABS, P-CODI
880913	YAN 8410		HWW	8.09	8.10	Q-FYELD, P-MABS, P-CODI
880914	HSUZHOU 319		HWW	7.53	7.64	P-FYELD, P-MABS, VP-CODI
880915	SI 28-5201		HRW	8.11	8.10	P-MABS, P-CODI
880916	SI 79-022		HRW	8.10	8.22	Q-FYELD, P-MABS, P-CODI
880917	SI 34-7085		HRW	7.91	8.13	Q-FYELD, P-MABS, P-CODI
880918	P 60-412		HWW	8.11	8.08	VP-FYELD, P-MABS, P-CODI
880919	WU SHEN 2		HRW	7.74	7.90	P-FYELD, P-BABS, P-MTIME, P-LVOL, P-BCRGR
880920	LANG 8302		HWW	8.19	8.24	P-FYELD, P-CODI

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LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR
					<u>3/</u>			<u>4/</u>	
880921	SUYU 4		SWW						
880922	IC4 102-5		SWW						
880923	SHAAN NONG 7853		HWW	59.5	59.9	1.9	850	875	7
880924	HSUZHOU 2111		HWW						
880925	YUN 83-2		HWW						
880926	BAOFENG 7228		HWW						
880927	SHAAN NONG 7853		HWW						
880928	I 84-5418		SWW						
880929	CA 8335		SWW						
880930	TUNG SHEI 3		SRW						
880931	TAIYUAN 434		SRW						
880932	CHIN NONG 52		HRW	60.5	60.3	1.7	780	768	7
880933	CHIN MAI 148		HWW	60.4	61.0	1.9	805	842	7
880934	CHIN NONG 161		HWW						
880935	CHIN NONG 134		HRW	64.5	64.7	1.9	840	852	5
880936	3636-2		SWW						
880937	3142-1		SWW						
880938	CHIN MAI 1		HWW	64.2	63.2	1.6	860	798	5
880939	CHIN MAI 17		HWW						
880940	TAIYUAN 110		HRW						
880941	79 TUNG 66		HRW						
880942	82-3442		HWW	61.0	60.1	1.7	720	664	9
880943	82-3466		HRW						
880944	XIAO YAN 6		HWW						
880945	CA 7910		HRW						
880946	CA 8051		HWW	62.5	62.1	2.2	825	800	7
880947	DONGDA		HRW						
880948	TONG FANG HONG		HRW						
880949	DAM MAI 1		SRW	65.4	64.1	2.2	905	824	4
880950	FENGCHAN 3		SWW						

LABNUM	VARIETY	IDNO	CLASS	COOI	COOIC 4/	RMKS
880921 SUYU 4			SWW	8.45	8.49	VP-FYELD, Q-CODI
880922 IC4 102-5			SWW	8.40	8.39	VP-FYELD, P-CODI
880923 SHAAN NONG 7853			HWW	8.29	8.26	P-BABS, P-MTIME, P-LVOL, P-BCRGR
880924 HSUZHOU 2111			HWW	8.25	8.27	P-MABS, P-CODI
880925 YUN 83-2			HWW	8.09	8.27	P-MABS, P-CODI
880926 BAOFENG 7228			HWW	8.10	8.21	VP-FYELD, P-MABS, P-CODI
880927 SHAAN NONG 7853			HWW	8.14	8.08	P-MABS, P-CODI
880928 I 84-5418			SWW	8.23	8.43	P-CODI
880929 CA 8335			SWW	8.54	8.53	VP-FYELD, Q-CODI
880930 TUNG SHEI 3			SRW	8.20	8.21	Q-FYELD, P-CODI
880931 TAIYUAN 434			SRW	8.54	8.23	Q-FYELD, Q-CODI
880932 CHIN NONG 52			HRW	8.40	8.42	P-BABS, P-MTIME, P-LVOL, P-BCRGR
880933 CHIN MAI 148			HWW	8.29	8.24	P-BABS, Q-MTIME, P-LVOL, P-BCRGR
880934 CHIN NONG 161			HWW	8.14	8.23	Q-FYELD, P-MABS, P-CODI
880935 CHIN NONG 134			HRW	7.99	7.97	Q-MTIME, P-LVOL, Q-BCRGR
880936 3636-2			SWW	8.54	8.53	VP-FYELD, Q-CODI
880937 3142-1			SWW	8.44	8.27	VP-FYELD, Q-CODI
880938 CHIN MAI 1			HWW	8.26	8.34	VP-FYELD, P-MTIME, P-LVOL, Q-BCRGR
880939 CHIN MAI 17			HWW	8.40	8.42	P-CODI
880940 TAIYUAN 110			HRW	8.46	8.51	Q-CODI
880941 79 TUNG 66			HRW	7.91	8.09	VP-FYELD, P-MABS, P-CODI
880942 82-3442			HWW	8.00	8.07	P-BABS, P-MTIME, P-LVOL, P-BCRGR
880943 82-3466			HRW	8.21	8.32	P-MABS, P-CODI
880944 XIAO YAN 6			HWW	7.99	8.28	VP-FYELD, P-CODI
880945 CA 7910			HRW	8.11	8.30	P-MABS, P-CODI
880946 CA 8051			HWW	8.14	8.17	P-BABS, Q-MTIME, P-LVOL, P-BCRGR
880947 DONGDA			HRW	8.08	8.09	P-MABS, P-CODI
880948 TONG FANG HONG			HRW	8.31	8.42	VP-FYELD, Q-MTIME, P-LVOL, Q-BCRGR
880949 DAM MAI 1			SRW	9.36	9.14	
880950 FENGCHAN 3			SWW	8.51	8.56	VP-FYELD, Q-CODI

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LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
880951	ZHF 58-182		SRW	60.4	56.0	0.42	65.4	13.5	54.9	1H
880952	ZHF 73-361		SRW	63.2	65.0	0.34	83.0	12.0	57.7	2H
880953	ZHF 73-369		HRW	62.0	65.4	0.36	81.9	14.7	56.1	1H
880954	ZHF 77-2		HRW	64.8	67.7	0.35	84.8	12.9	58.0	2H
880955	CA 7910		HRW	62.0	68.0	0.36	84.6	13.9	55.0	1H
880956	SICHUAN 19		SRW	64.8	64.8	0.37	79.8	10.5	54.3	1M
880957	WANSER		HRW	64.8	71.8	0.31	91.2	11.6	65.6	3H
880958	STEPHENS		SRW	60.8	69.4	0.44	81.3	10.1	54.3	2M
880959	DAWS		SRW	64.0	67.5	0.37	83.2	9.3	56.2	3M
880960	ID 86-11		HRW	64.0	70.9	0.36	87.0	12.4	57.6	2H
880961	ID 86-21		HRW	65.2	71.7	0.43	83.8	12.8	61.5	2H
880962	ID 86-22		HRW	64.0	72.3	0.43	84.4	12.9	62.4	2H
880963	ID 86-23		HRW	65.6	71.9	0.36	88.6	11.8	65.2	4H
880964	ID 86-24		HRW	66.4	72.2	0.37	88.4	11.8	65.5	4H
880965	ID 86-46		SRW	65.6	71.2	0.39	86.6	11.1	65.1	4M
880966	ID 86-48		SRW	66.4	73.8	0.34	93.7	10.2	62.5	3M
880967	ID 86-53		SRW	66.0	73.5	0.38	90.8	10.7	63.0	4M
880968	ID 86-55		HRW	65.6	68.9	0.36	85.5	10.8	64.1	3H
880969	ID 86-56		HRW	65.6	69.6	0.41	83.5	10.7	63.4	3M
880970	ID 86-57		SRW	60.4	74.6	0.45	87.2	10.3	59.2	3M
880971	ID 86-62		SRW	62.8	71.4	0.40	86.2	9.5	61.2	2M
880972	ID 86-64		SRW	64.4	67.4	0.31	87.5	10.6	61.9	3M
880973	ID 86-70		SRW	64.4	67.7	0.35	85.3	9.4	60.9	2M
880974	ID 86-71		SRW	60.8	66.8	0.39	81.1	10.5	58.5	3M
880975	ID 86-74		HRW	64.4	71.2	0.38	87.3	10.2	59.4	2M
880976	ID 86-85		HRW	64.4	68.7	0.32	87.4	11.5	61.9	4M
880977	ID 86-96		SRW	64.0	65.4	0.38	79.9	9.7	56.8	2M
880978	ID 86-97		SRW	63.2	65.9	0.40	79.3	9.9	56.0	2M
880979	ID 86-127		HRW	62.4	70.2	0.34	88.0	10.1	58.8	4M
880980	ID 86-138		HRW	63.6	69.4	0.32	88.2	10.5	62.4	6M

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LABNUM	VARIETY	IDNO	CLASS	CODI	CODIC 4/	RMKS
880951 ZHF 58-182			SRW	8.67	8.84	VP-FYELD
880952 ZHF 73-361			SRW	8.05	8.05	VP-FYELD, P-MTIME, P-LVOL, P-BCRGR
880953 ZHF 73-369			HRW	8.11	8.33	VP-FYELD, P-MABS, P-CODI
880954 ZHF 77-2			HRW	8.05	8.12	P-FYELD, P-MTIME, P-LVOL, Q-BCRGR
880955 CA 7910			HRW	8.11	8.26	P-FYELD, P-MABS, P-CODI
880956 SICHUAN 19			SRW	8.89	8.72	VP-FYELD
880957 WANSER			HRW	8.34	8.31	
880958 STEPHENS			SRW	9.15	8.94	
880959 DAWS			SRW	8.91	8.62	
880960 ID 86-11			HRW	7.86	7.89	P-MTIME, P-LVOL, P-BCRGR, P-CODI
880961 ID 86-21			HRW	8.10	8.16	Q-MTIME
880962 ID 86-22			HRW	8.24	8.31	P-MTIME, P-LVOL, Q-BCRGR
880963 ID 86-23			HRW	8.39	8.37	Q-S-BCRGR
880964 ID 86-24			HRW	8.30	8.28	
880965 ID 86-46			SRW	8.25	8.15	P-CODI
880966 ID 86-48			SRW	8.45	8.25	Q-CODI
880967 ID 86-53			SRW	8.35	8.21	P-CODI
880968 ID 86-55			HRW	8.21	8.12	Q-FYELD, Q-BCRGR
880969 ID 86-56			HRW	8.05	7.95	Q-FYELD, Q-MTIME, Q-S-BCRGR
880970 ID 86-57			SRW	8.44	8.25	Q-CODI
880971 ID 86-62			SRW	8.99	8.71	
880972 ID 86-64			SRW	8.64	8.48	Q-FYELD, Q-CODI
880973 ID 86-70			SRW	8.94	8.65	Q-FYELD
880974 ID 86-71			SRW	8.91	8.75	P-FYELD
880975 ID 86-74			HRW	8.50	8.36	Q-CODI
880976 ID 86-85			HRW	8.12	8.09	Q-MTIME, P-LVOL, Q-BCRGR
880977 ID 86-96			SRW	9.42	9.17	P-FYELD
880978 ID 86-97			SRW	9.19	8.96	P-FYELD
880979 ID 86-127			HRW	8.15	8.00	Q-S-BCRGR
880980 ID 86-138			HRW	8.23	8.11	P-LVOL, Q-S-BCRGR

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LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
880981 ID 86-143			SRW	62.8	63.2	0.36	78.4	11.7	58.8	3M
880982 ID 86-148			SRW	61.2	70.9	0.40	85.6	9.3	57.8	3L
880983 ID 86-149			SRW	61.2	70.7	0.40	85.4	9.3	59.7	3L
880984 ID 86-151			6/ SRW	63.6	71.6	0.33	90.9	9.2	59.8	2M
880985 ID 86-152			6/ SRW	65.2	71.9	0.33	91.9	9.4	58.6	2M
880986 ID 86-157			SRW	61.2	68.8	0.40	83.0	10.0	57.5	2M
880987 ID 86-162			HRW	61.6	71.5	0.36	88.2	10.3	58.2	3M
880988 ID 86-168			SRW	62.0	72.0	0.40	87.0	9.5	56.0	2M
880989 ID 86-169			SRW	58.0	69.4	0.43	81.8	9.8	56.3	2M
880990 ID 86-170			SRW	58.4	70.4	0.41	84.4	9.5	56.4	2M
880991 ID 86-175			SRW	59.6	66.0	0.37	81.3	9.4	58.1	4M
880992 ID 86-183			SRW	62.0	68.2	0.35	85.4	9.8	57.1	2M
880993 ID 86-187			HRW	63.2	67.9	0.30	87.7	10.8	61.7	7M
880994 ID 86-196			HRW	64.8	71.9	0.34	89.7	13.2	60.2	3H
880995 ID 86-211			HRW	60.4	69.0	0.33	87.3	11.1	58.1	3M
880996 ID 86-217			HRW	62.8	68.0	0.33	86.2	10.3	58.4	2H
880997 ID 86-221			SRW	61.2	66.6	0.37	82.1	10.8	54.1	1M
880998 ID 86-224			SRW	58.4	64.2	0.43	75.2	10.2	56.8	2M
880999 ID 86-226			SRW	62.0	69.9	0.36	86.9	9.8	58.8	3M
881000 ID 86-229			HRW	62.8	71.6	0.38	87.1	10.6	56.4	2H
881001 ID 86-241			SRW	62.0	67.8	0.33	86.7	10.2	57.3	2M
881002 ID 86-247			SRW	64.4	67.7	0.32	87.2	10.6	57.6	2M
881003 ID 86-248			SRW	63.2	67.4	0.35	84.9	11.6	59.0	2H
881004 ID 86-252			SRW	65.2	64.5	0.38	78.8	10.8	57.3	2M
881005 ID 80-855			HRW	65.2	70.4	0.49	80.2	10.4	57.9	3H
881006 SURVIVOR			HRW	64.8	72.1	0.29	92.5	11.4	64.1	4H
881007 ID 85-138			SRW	63.2	69.4	0.41	83.1	9.3	56.2	2M
881008 ID 85-138			SRW	63.6	67.2	0.39	81.6	10.2	57.3	1M
881009 ID 85-132			SRW	61.2	67.8	0.45	78.6	9.8	57.1	2M
881010 ID 85-133			HRW	65.6	68.7	0.35	85.8	11.2	62.4	3H

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LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC 3/	MTIME	LVOL	LVOLC 4/	BCRGR
880981 ID 86-143			SRW						
880982 ID 86-148			SRW						
880983 ID 86-149			SRW						
880984 ID 86-151			SRW						
880985 ID 86-152			SRW						
880986 ID 86-157			SRW						
880987 ID 86-162			SRW	60.2	61.9	2.2	795	900	6
880988 ID 86-168			SRW						
880989 ID 86-169			SRW						
880990 ID 86-170			SRW						
880991 ID 86-175			SRW						
880992 ID 86-183			SRW						
880993 ID 86-187			SRW	65.2	66.4	3.8	755	829	8
880994 ID 86-196			SRW	62.1	60.9	3.0	945	871	4
880995 ID 86-211			SRW	58.9	59.8	2.3	750	806	8
880996 ID 86-217			SRW						
880997 ID 86-221			SRW	59.4	61.1	2.1	800	905	7
880998 ID 86-224			SRW						
880999 ID 86-226			SRW						
881000 ID 86-229			SRW	56.7	58.1	2.2	680	767	9
881001 ID 86-241			SRW						
881002 ID 86-247			SRW						
881003 ID 86-248			SRW						
881004 ID 86-252			SRW						
881005 ID 80-855			SRW	59.0	60.6	2.6	745	844	8
881006 SURVIVOR			SRW						
881007 ID 85-138			SRW	64.2	64.8	3.7	815	852	9
881008 ID 85-138			SRW						
881009 ID 85-132			SRW						
881010 ID 85-133			SRW	63.3	64.1	2.8	815	865	7

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LABNUM	VARIETY	IDNO	CLASS	COD1	CODIC 4/	RMKS
880981 ID 86-143			SRW	8.41	8.38	VP-FYELD,Q-CODI
880982 ID 86-148			SWW	9.10	8.80	
880983 ID 86-149			SWW	9.02	8.73	
880984 ID 86-151			SWW	8.91	8.60	
880985 ID 86-152			SWW	9.05	8.76	
880986 ID 86-157			SWW	8.89	8.67	Q-FYELD
880987 ID 86-162			HWW	8.20	8.06	Q-MTIME,Q-LVOL,Q-BCRGR,P-CODI
880988 ID 86-168			SWW	9.04	8.76	
880989 ID 86-169			SWW	8.99	8.75	Q-FYELD
880990 ID 86-170			SWW	9.08	8.80	
880991 ID 86-175			SWW	8.65	8.36	VP-FYELD,Q-CODI
880992 ID 86-183			SWW	9.15	8.91	Q-FYELD
880993 ID 86-187			HWW	8.21	8.12	Q-FYELD,P-LVOL,P-BCRGR
880994 ID 86-196			HRW	8.17	8.27	P-LVOL,Q-S-BCRGR
880995 ID 86-211			HWW	8.43	8.35	Q-MTIME,P-LVOL,P-BCRGR
880996 ID 86-217			HWW	8.48	8.34	Q-MTIME,Q-LVOL,Q-BCRGR
880997 ID 86-221			SWW	8.46	8.33	VP-FYELD,Q-CODI
880998 ID 86-224			SWW	8.80	8.60	VP-FYELD
880999 ID 86-226			SWW	8.94	8.70	
881000 ID 86-229			HWW	8.24	8.13	Q-MTIME,P-LVOL,P-BCRGR
881001 ID 86-241			SRW	8.75	8.55	Q-FYELD
881002 ID 86-247			SRW	8.85	8.70	Q-FYELD
881003 ID 86-248			SRW	9.02	8.98	Q-FYELD
881004 ID 86-252			SRW	9.01	8.88	VP-FYELD
881005 ID 80-855			HWW	8.19	8.06	P-FASH,P-MSCOR,P-LVOL,P-BCRGR
881006 SURVIVOR			HRW	8.27	8.23	P-LVOL,P-BCRGR
881007 ID 85-138			SWW	9.01	8.72	Q-FYELD
881008 ID 85-138			SWW	8.98	8.78	P-FYELD
881009 ID 85-132			SWW	8.96	8.72	P-FYELD
881010 ID 85-133			HWW	8.21	8.15	Q-FYELD,P-LVOL,Q-U-BCRGR

NURSCO 34

MOSCOW, ID

C.T. LIU

LABNUM	VARIETY	IDNO	CLASS	TWT	FYLD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
881011	ID 85-135		SWW	62.4	66.5	0.41	79.4	10.7	56.2	1M
881012	ID 85-132-3		SWW	63.2	67.7	0.38	82.8	10.0	56.5	1M
881013	ID 85-135-5		SWW	62.4	66.7	0.39	80.9	10.4	55.6	1M
881014	WANSER		HRW	65.6	71.0	0.30	90.9	10.1	62.7	4M
881015	STEPHENS		SWW	62.0	68.9	0.43	81.3	9.5	57.3	2M
881016	DAWS		SWW	64.0	68.6	0.38	84.0	8.8	56.7	3L
881017	CA 8023		HRW	62.0	66.4	0.37	82.3	12.5	60.2	2H
881018	CA 8052		HRW	63.2	66.1	0.31	85.2	14.1	60.9	1H
881019	CA 8052		HRW	67.4	69.6	0.35	86.8	14.1	60.7	2H
881020	CA 8053		HRW	62.0	65.3	0.34	82.8	13.1	61.4	2H
881021	CA 8056		HRW	64.0	64.9	0.36	81.3	13.9	60.2	2H
881022	CA 8129		HRW	63.6	62.5	0.36	78.8	13.6	59.5	1H
881023	FENGKAN 2		HRW	62.8	68.2	0.34	85.9	13.6	60.3	1H
881024	JINHUA 1		HRW	62.4	65.0	0.35	82.0	12.3	59.8	2M
881025	JINTUNG 441-2		HRW	62.4	65.3	0.31	84.4	14.0	54.1	1H
881026	NONGDA 139		SWW	63.2	64.9	0.36	80.5	10.9	56.6	2M
881027	82-3420		HRW	66.0	67.3	0.32	85.9	11.9	58.2	3M
881028	82-3442		HRW	62.8	67.4	0.34	85.0	13.0	57.7	3M
881029	82-3446		HRW	62.8	67.8	0.34	85.4	12.9	57.5	3M
881030	82-3466		HRW	64.0	71.0	0.33	89.3	13.1	57.5	2H
881031	82-3475		HRW	62.0	66.7	0.34	84.3	13.5	58.6	1H
881032	79-7060		SRW	62.4	62.7	0.39	75.9	12.9	58.0	3M
881033	7552-5-1		HRW	63.2	62.5	0.35	79.4	12.9	57.4	1H
881034	XIAOYAN 4		HRW	62.4	65.6	0.31	84.7	12.8	61.2	2H
881035	FENGKAN 9		HRW	63.2	66.2	0.33	84.1	13.0	59.2	1H
881036	CA 8055		HRW	64.0	65.0	0.32	83.5	12.5	58.3	1H
881037	AIFENG 3		SWW	62.8	62.1	0.35	78.1	11.8	53.7	1H
881038	CA 8051		HRW	63.6	69.2	0.29	89.5	12.1	58.6	2H
881039	CA 8129		HRW	63.2	63.6	0.34	81.0	14.1	55.2	1H
881040	DONGDA		HRW	62.4	67.6	0.29	87.8	12.2	57.1	1H

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MOSCOW, ID

C.T. LIU

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC 3/	MTIME	LVOL	LVOLC 4/	BCRGR
881011 ID 85-135			SWW						
881012 ID 85-132-3			SWW						
881013 ID 85-135-5			SWW						
881014 WANSER			HRW	62.5	64.4	3.0	855	973	9
881015 STEPHENS			SWW						
881016 DAWS			SWW						
881017 CA 8023			HRW	63.4	62.9	2.0	855	824	6
881018 CA 8052			HRW						
881019 CA 8052			HRW	65.5	63.4	1.7	865	735	7
881020 CA 8053			HRW	63.2	62.1	1.9	850	782	7
881021 CA 8056			HRW						
881022 CA 8129			HRW	63.8	61.9	1.7	780	662	8
881023 FENGKAN 2			HRW						
881024 JINHUA 1			HRW						
881025 JINTUNG 441-2			HRW						
881026 NONGDA 139			SWW						
881027 82-3420			HRW						
881028 82-3442			HRW	60.4	59.4	2.0	755	693	9
881029 82-3446			HRW	62.1	61.2	2.1	715	659	9
881030 82-3466			HRW						
881031 82-3475			HRW						
881032 79-7060			SRW	62.1	61.2	2.4	930	876	5
881033 7552-5-1			HRW						
881034 XIAOYAN 4			HRW	65.7	64.9	1.8	875	825	5
881035 FENGKAN 9			HRW						
881036 CA 8055			HRW						
881037 AIFENG 3			SWW						
881038 CA 8051			HRW						
881039 CA 8129			HRW						
881040 DONGDA			HRW						

NURSCO 34

MOSCOW, ID

C.T. LIU

LABNUM	VARIETY	IDNO	CLASS	CODI	CODIC 4/	RMKS
881011	ID 85-135		SWW	8.80	8.66	VP-FYELD
881012	ID 85-132-3		SWW	8.94	8.72	Q-FYELD
881013	ID 85-135-5		SWW	8.84	8.66	P-FYELD
881014	WANSER		HRW	8.54	8.39	
881015	STEPHENS		SWW	8.81	8.54	
881016	DAWS		SWW	8.74	8.39	
881017	CA 8023		HRW	8.21	8.25	P-FYELD, Q-MTIME, P-LVOL, Q-BCRGR
881018	CA 8052		HRW	8.02	8.19	P-FYELD, P-MABS, P-CODI
881019	CA 8052		HRW	8.06	8.23	P-BABS, P-MTIME, P-LVOL, Q-U-BCRGR
881020	CA 8053		HRW	8.10	8.19	P-FYELD, Q-MTIME, P-LVOL, Q-U-BCRGR
881021	CA 8056		HRW	8.09	8.24	P-FYELD, P-BABS, P-MTIME, VP-LVOL, P-BCRGR
881022	CA 8129		HRW	7.91	8.04	VP-FYELD, P-MABS, P-CODI
881023	FENGKAN 2		HRW	8.21	8.34	P-MABS, P-CODI
881024	JINHUA 1		HRW	8.15	8.17	P-FYELD, P-CODI
881025	JINTUNG 441-2		HRW	8.07	8.23	P-FYELD, P-MABS, P-CODI
881026	NONGDA 139		SWW	8.65	8.53	VP-FYELD, Q-CODI
881027	82-3420		HRW	8.10	8.09	Q-FYELD, P-MABS, P-CODI
881028	82-3442		HRW	8.07	8.15	Q-FYELD, P-BABS, Q-MTIME, P-LVOL, P-BCRGR
881029	82-3446		HRW	8.15	8.22	Q-FYELD, P-BABS, Q-MTIME, P-LVOL, P-BCRGR
881030	82-3466		HRW	8.09	8.18	P-MABS, P-CODI
881031	82-3475		HRW	8.00	8.12	P-FYELD, P-MABS, P-CODI
881032	79-7060		SRW	8.49	8.59	VP-FYELD, P-BABS, P-LVOL, Q-BCRGR
881033	7552-5-1		HRW	8.04	8.11	VP-FYELD, P-MABS, P-CODI
881034	XIAOYAN 4		HRW	8.09	8.15	P-FYELD, Q-MTIME, P-LVOL, Q-BCRGR
881035	FENGKAN 9		HRW	8.16	8.24	P-FYELD, P-MABS, P-CODI
881036	CA 8055		HRW	7.71	7.75	P-FYELD, P-MABS, VP-CODI
881037	AIFENG 3		SWW	8.43	8.40	VP-FYELD, Q-CODI
881038	CA 8051		HRW	8.33	8.33	P-MABS, P-CODI
881039	CA 8129		HRW	7.89	8.06	VP-FYELD, VP-MABS, P-CODI
881040	DONGDA		HRW	7.99	8.00	Q-FYELD, P-MABS, P-CODI

IDAHO/CHINESE QUALITY SAMPLES

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

C.T. LIU

MOSCOW, ID

NURSCO 34

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
881041	DONG FANG HONG		HRW	64.0	67.2	0.31	86.3	13.2	60.3	2H
881042	DAM MAI		SRW	60.8	68.9	0.34	87.4	9.6	57.1	2M
881043	XIAN NONG 39		HRW	65.2	66.6	0.34	84.2	12.5	58.4	1H
881044	SICHUAN 18		HRW	61.2	66.1	0.33	84.2	13.8	57.1	1H
881045	FENGKAN 7		SRW	62.0	61.9	0.42	72.9	12.6	57.4	1H
881046	602-1691		SRW	62.4	67.3	0.36	84.1	10.4	58.8	2M
881047	SICHUAN 20		SRW	63.2	62.4	0.34	79.2	10.2	59.5	2M
881048	SICHUAN 19		SRW	64.4	63.8	0.34	80.9	10.3	57.0	1M

C.T. LIU

MOSCOW, ID

NURSCO 34

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC 3/	MTIME	LVOL	LVOLC 4/	BCRGR
881041	DONG FANG HONG			65.2	64.0	2.3	895	821	4
881042	DAM MAI		HRW						
881043	XIAN NONG 39		SRW						
881044	SICHUAN 18		HRW						
881045	FENGGAN 7		SRW						
881046	602-1691		SRW						
881047	SICHUAN 20		SRW						
881048	SICHUAN 19		SRW						

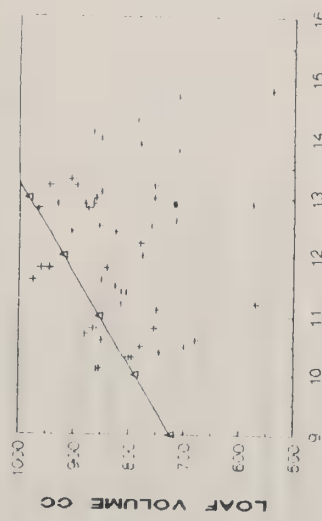
NURSCO 34

MOSCOW, ID

C.T. LIU

LABNUM	VARIETY	IDNO	CLASS	CODI	CODIC 4/	RMKS
881041	DONG FANG HONG		HRW	8.23	8.32	Q-FYELD,P-LVOL,Q-S-BCRGR
881042	DAM MAI		SRW	9.01	8.75	
881043	XIAN NONG 39		HRW	7.99	8.03	P-FYELD,P-MABS,P-CODI
881044	SICHUAN 18		HRW	7.89	8.03	P-FYELD,P-MABS,P-CODI
881045	FENGKAN 7		SRW	8.55	8.62	VP-FYELD,Q-CODI
881046	602-1691		SRW	8.99	8.81	Q-FYELD
881047	SICHUAN 20		SRW	8.65	8.45	VP-FYELD
881048	SICHUAN 19		SRW	8.74	8.55	VP-FYELD

LOAF VOLUME VS PROTEIN



PROTEIN %
+ EXP
Δ EXPECTED
CROSSES

COMMENTS: This nursery averaged 12% flour protein. Due to the short and weak mixograph characteristics of several hard wheats in the nursery, they were not baked for bread. Of the hard wheats baked for bread, most showed lower than expected loaf volumes and generally poor bread. See Loaf Volume VS Protein Plot. See "Remarks" for the major deficiencies of these selections. Cookies were baked on all selections in the nursery.

WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

HARD WHITE WINTER WHEAT

NURSCO 35

PULLMAN, WA

C.J. PETERSON

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
881049	MRS/3/YMH//RIEB/NCO/4/SW	VH087225	SWW	60.0	66.9	0.30	86.6	8.1	56.8	3L
881050	VM82755, BR81-4/HILL81	VH087312	HWW	66.4	72.0	0.29	92.4	9.2	59.7	3M
881051	WA6912/ID745318	VH087409	SWW	62.8	71.2	0.33	89.6	8.4	54.5	2L
881052	LEWJAIN/ID232	VH087450	SWW	63.6	65.0	0.31	84.1	8.1	57.4	3M
881053	V78037, OR680073/CERCO	VH084463	HWW	61.6	66.1	0.35	82.9	8.2	57.7	3L
881054	MARIS HUNTSMAN/VH75521	WA136910	SWW	60.8	71.5	0.37	88.3	7.8	55.1	3L
881055	BBY/HYS//LUKE/3/LJN	VH084303	SWW	60.8	62.3	0.30	81.7	7.7	57.5	3L
881056	SENTRY/LEWJAIN	VH085206	HWW	62.8	70.6	0.32	89.4	8.5	57.9	3M
881057	PECK//A/WA4765/3/GREER12	VJ086103	SWW	58.0	69.4	0.35	87.0	6.7	55.9	2L
881058	DAWS/BISON'S	VH086077	SWW	63.2	66.1	0.29	85.9	7.4	58.1	4L
881059	MITHRAS/DAWS	VH086019	SWW	61.2	73.1	0.30	94.8	8.4	53.9	3L
881060	ID72001/P1173438	VJ086468	SWW	62.0	69.8	0.34	87.4	8.4	54.8	2L
881061	BLADE	6/	HWW	66.0	69.4	0.27	92.5	11.3	57.2	3M
881062	SEL.1/DENTON//820/0/1834/178383	6/ REA87446	HWW	60.0	69.1	0.35	86.3	9.0	58.7	7M
881063	DAWS*2/CHERNOMORSKAJA	6/ REA87455	HWW	61.2	69.0	0.33	87.3	8.5	59.5	6M
881064	DAWS*2/PI393983, STORM	REA87465	HWW	61.6	68.0	0.32	86.7	9.5	58.4	4M
881065	BURT*4/SS	6/ REA87774	HWW	64.4	72.8	0.34	90.6	8.8	59.8	4M
881066	BURT*4/HYBRID46	REA87784	HWW	64.8	66.9	0.31	85.8	8.8	60.6	7M
881067	BURT*4/THATCHER	REA87786	HWW	64.8	69.2	0.30	89.0	7.8	61.1	5M
881068	BURT*4/CD	REA87792	HWW	65.2	70.5	0.32	89.3	9.6	60.4	4M
881069	BURT*4//12804/RCM	5/ REA87798	HWW	63.2	70.7	0.31	90.1	11.5	60.2	3H
881070	BURT*6/RIEBESEL	6/ REA87802	HWW	64.8	70.3	0.32	89.1	9.4	62.0	6M
881071	IBIS/4*BURT	6/ REA87805	HWW	64.4	71.5	0.31	90.9	10.1	61.7	6M
881072	IBIS/4*BURT	REA87806	HWW	65.2	70.5	0.35	87.8	8.1	59.7	5M
881073	DIPPES TRI/4*BURT	6/ REA87809	HWW	64.0	70.5	0.31	89.8	9.0	60.8	3M
881074	PI94349/7*BURT	6/ REA87810	HWW	65.2	71.3	0.35	88.6	9.0	61.5	7M
881075	771192 SU92/7*BURT TALL BR	6/ REA87814	HWW	64.8	70.8	0.31	90.2	9.2	62.5	6M
881076		6/ WA7626	HWW	66.0	70.8	0.33	89.1	8.7	62.4	4M
881077	STEPHENS	CI017569	SWW	63.6	71.8	0.30	93.1	8.1	55.0	2L
881078	SU92/7*BURT*2//TH/2*B	6/ RE869445	HWW	63.6	69.1	0.31	88.4	8.5	67.8	4M

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 9% Protein

4/ Observed Values Corrected to 9% Protein

5/

Particularly Promising Overall Quality Characteristics

6/

Promising Overall Quality Characteristics

NURSCO 35

PULLMAN, WA

C.J. PETERSON

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					<u>3/</u>			<u>4/</u>		
881049	MRS/3/YMH//RIEB/NCO/4/SW	VH087225	SWW							P-FYELD
881050	VM82755, BR81-4/HILL81	VH087312	HWW	59.6	59.4	2.5	765	753	8	Q-LVOL, P-BCRGR Exc. Milling
881051	WA6912/ID745318	VH087409	SWW							
881052	LEWJAIN/ID232	VH087450	SWW	56.2	57.1	3.0	750	804	9	P-FYELD, BCRGR
881053	V78037, OR680073/CERCO	VH084463	HWW	57.1	57.9	2.0	725	775	9	P-FYELD, BCRGR
881054	MARIS HUNTSMAN/VH75521	WA136910	SWW							
881055	BBY/HYS//LUKE/3/LJN	VH084303	SWW							
881056	SENTRY/LEWJAIN	VH085206	HWW							
881057	PECK//A/WA4765/3/GREER12	VJ086103	SWW							
881058	DAWS/BISON'S'	VH086077	SWW							
881059	MITHRAS/DAWS	VH086019	SWW							
881060	ID72001/PI173438	VJ086468	SWW							
881061	BLADE		HWW	59.2	56.9	2.0	940	797	4	Q-MTIME
881062	SEL. 1/DENTON//820/0/1834/178383	REA87446	HWW	59.4	59.4	4.0	875	875	6	Q-BCRGR
881063	DAWS*2/CHERNOMORSKAJA	REA87455	HWW	59.7	60.2	4.2	840	871	6	Q-BCRGR
881064	DAWS*2/PI393983, STORM	REA87465	HWW	59.6	59.1	3.3	760	729	7	Q-FYELD, LVOL, BCRGR
881065	BURT*4/SS	REA87774	HWW	60.3	60.5	3.5	865	877	5	≥ Coulee
881066	BURT*4/HYBRID46	REA87784	HWW	61.1	61.3	3.8	825	837	5	P-FYELD
881067	BURT*4/THATCHER	REA87786	HWW	60.6	61.8	4.3	725	799	8	P-BCRGR
881068	BURT*4/CD	REA87792	HWW	61.7	61.1	3.2	825	788	5	= Coulee, Q-LVOL
881069	BURT*4//12804/RCM	REA87798	HWW	63.4	60.9	3.5	1015	860	3	
881070	BURT*6/RIEBESEL	REA87802	HWW	63.1	62.7	4.6	840	815	4	= Coulee
881071	IBIS/4*BURT	REA87805	HWW	63.0	61.9	4.2	885	817	4	= Coulee
881072	IBIS/4*BURT	REA87806	HWW	59.5	60.4	3.9	755	811	9	P-BCRGR
881073	DIPPES TRI/4*BURT	REA87809	HWW	61.5	61.5	2.4	815	815	4	= Coulee
881074	PI94349/7*BURT	REA87810	HWW	62.2	62.2	4.2	815	815	4	≥ Coulee
881075	771192 SU92/7*BURT TALL BR	REA87814	HWW	63.4	63.2	3.5	845	833	5	= Coulee
881076		WA7626	HWW	62.8	63.1	3.2	805	824	5	= Coulee
881077	STEPHENS	CI017569	SWW							
881078	SU92/7*BURT*2//TH/2*B	RE869445	HWW	68.0	68.5	4.1	805	836	5	= Coulee

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

HARD WHITE WINTER WHEAT

C.J. PETERSON

PULLMAN, WA

NURSCO 35

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
881079	SU92/7*B*2//SS/2*B	RE869454	HRW	63.2	69.7	0.36	86.5	8.5	61.8	4M
881080	SU92/7*B*2//TH/2*B	RE869476	HWW	63.2	70.2	0.34	88.0	8.3	62.4	6M
881081	SU92/7*B*2//TH/2*B	6/ RE869478	HWW	64.0	70.3	0.31	89.6	9.9	61.9	6M
881082	SU92/7*B*2//PNC/MM/RM/2*B	RE869448	HWW	64.8	70.9	0.32	89.8	9.0	60.9	5M
881083	92/7*B*2//13431/7805/13447/2*B	RE869463	HWW	64.8	67.9	0.33	85.9	8.4	64.0	5M
881084	SU92/7*B*2//HYBRID46/2*B	RE869466	HWW	64.8	72.0	0.34	89.9	8.3	62.4	5M
881085	SU92/7*B*2//HYBRID46/2*B	RE869471	HWW	63.2	69.4	0.39	84.3	8.4	62.3	5M
881086	SU92/7*B*2//HK/2*B	RE869479	HWW	62.8	71.4	0.35	88.7	8.4	61.9	5M
881087	SU92/7*B*2//HK/2*B	RE869481	HWW	64.4	73.2	0.38	89.1	8.2	60.8	5M
881088	SU92/7*B*2//HK/2*B	RE869482	HWW	62.0	71.4	0.40	86.1	8.6	61.2	4M
881089	SU92/7*B*2//HK/2*B	RE869483	HWW	61.6	71.1	0.40	85.9	8.6	60.7	4M
881090	SU92/7*B*2//12804/RCM/2*B	6/ RE869484	HWW	65.2	73.4	0.32	92.3	9.2	60.2	6M
881091	SU92/7*B*2//CD/2*B	RE869499	HWW	63.2	66.8	0.36	83.3	7.5	59.2	6L
881092	SU92/7*B*2//CD/2*B	6/ RE869502	HWW	63.2	72.2	0.37	88.4	8.9	61.2	4M
881093	DUSTY	P1486429	SWW	61.6	71.9	0.39	87.6	7.1	56.2	2L
881094	.	N8606603	HWW	65.2	68.3	0.36	85.0	8.6	61.9	8M
881095	.	N8703401	HWW	65.2	72.2	0.34	90.0	8.8	61.6	4M
881096	.	N8703501	HWW	64.8	68.7	0.33	86.8	8.9	63.3	8M
881097	.	N8704401	SWW	63.2	67.8	0.38	83.0	9.0	57.1	3M
881098	.	6/ N8705702	HWW	62.4	68.3	0.34	86.0	9.5	61.2	4M
881099	.	6/ N8708804	HWW	64.8	70.3	0.34	88.1	10.3	60.7	6M
881100	.	N8708902	HWW	62.0	69.5	0.34	87.7	9.9	59.1	2M
881101	COULEE	.	HWW	60.0	68.1	0.34	85.9	9.5	59.5	3M
881102	.	77-99-34	HWW	64.4	72.1	0.29	92.6	10.2	60.1	4M
881103	KS84HW196	.	HWW	66.0	69.1	0.28	90.0	10.3	64.2	4M
881104	NA-W81-162W	6/ .	HWW	65.6	68.9	0.25	91.3	10.6	60.8	4M
881105	SPEAR	6/ .	HWW	62.4	68.5	0.28	89.5	9.7	61.0	4M

NURSCO 35

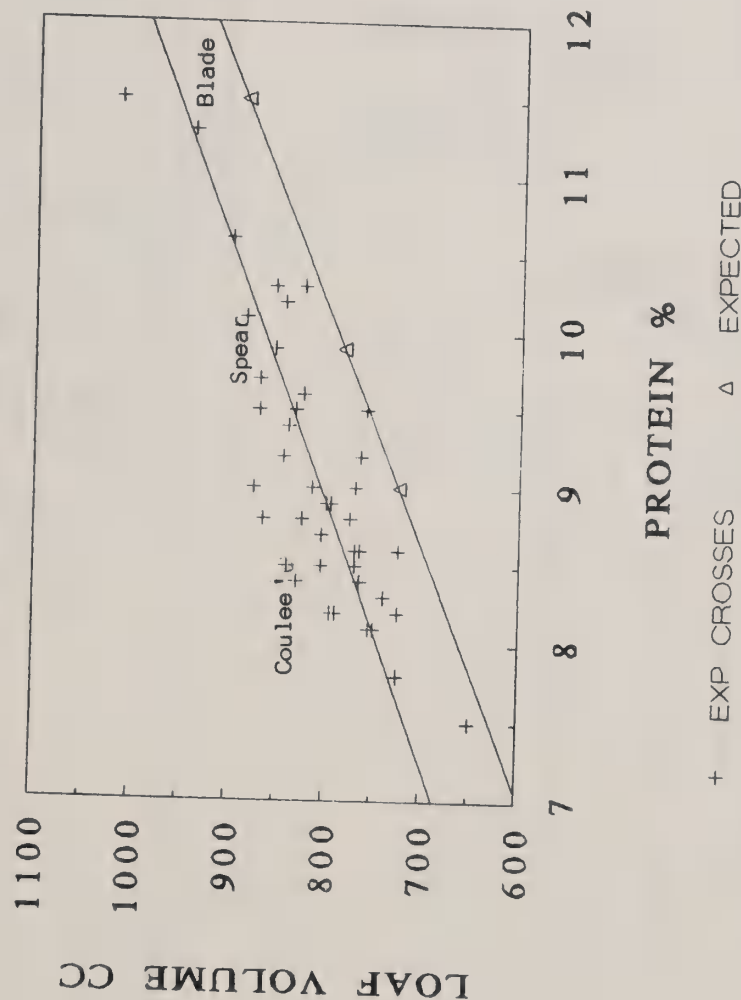
PULLMAN, WA

C.J. PETERSON

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
881079	SU92/7*B*2//SS/2*B	RE869454	HRW	62.0	62.5	3.7	770	801	8	P-BCRGR
881080	SU92/7*B*2//TH/2*B	RE869476	HRW	62.4	63.1	4.2	740	783	8	P-BCRGR
881081	SU92/7*B*2//TH/2*B	RE869478	HRW	63.5	62.6	4.1	855	799	4	= Coulee
881082	SU92/7*B*2//PNC/MM/RM/2*B	RE869448	HRW	61.6	61.6	3.7	770	770	6	Q-LVOL,BCRGR
881083	92/7*B*2//13*31/7805/13447/2*B	RE869463	HRW	64.1	64.7	3.6	765	802	8	P-BCRGR
881084	SU92/7*B*2//HYBRID46/2*B	RE869466	HRW	62.4	63.1	3.7	740	783	7	P-BCRGR
881085	SU92/7*B*2//HYBRID46/2*B	RE869471	HRW	62.4	63.0	4.1	765	802	8	P-BCRGR
881086	SU92/7*B*2//HK/2*B	RE869479	HRW	62.0	62.6	3.7	730	767	7	P-BCRGR,LVOL
881087	SU92/7*B*2//HK/2*B	RE869481	HRW	60.7	61.5	3.3	795	845	8	P-BCRGR,Excellent FYELD
881088	SU92/7*B*2//HK/2*B	RE869482	HRW	61.5	61.9	3.4	725	750	9	P-BCRGR,LVOL
881089	SU92/7*B*2//HK/2*B	RE869483	HRW	61.0	61.4	3.4	770	795	7	P-BCRGR
881090	SU92/7*B*2//12804/RCM/2*B	RE869484	HRW	61.1	60.9	3.6	790	778	6	Q-BCRGR
881091	SU92/7*B*2//CD/2*B	RE869499	HRW	58.4	59.9	3.3	650	743	9	P-BCRGR,LVOL
881092	SU92/7*B*2//CD/2*B	RE869502	HRW	61.8	61.9	3.1	795	801	6	
881093	DUSTY	PI486429	SWW							
881094	.	N8606603	HRW	62.2	62.6	5.1	765	790	8	P-BCRGR
881095	.	N8703401	HRW	62.1	62.3	4.2	775	787	8	P-BCRGR
881096	.	N8703501	HRW	63.9	64.0	4.7	800	806	8	P-BCRGR
881097	.	N8704401	SWW	57.8	57.8	2.9	815	815	8	P-BCRGR
881098	.	N8705702	HRW	62.4	61.9	3.6	870	839	6	Q-BCRGR
881099	.	N8708804	HRW	62.7	61.4	3.4	925	844	4	≥ Coulee
881100	.	N8708902	HRW							
881101	COULEE	.	HRW	59.9	59.4	2.3	833	802	5	
881102	.	77-99-34	HRW	62.0	60.8	2.9	845	771	5	Q-LVOL
881103	KS84HW196	.	HRW	66.2	64.9	2.9	855	774	6	Q-LVOL,BCRGR
881104	NA-W81-162W	.	HRW	63.1	61.5	3.0	900	801	6	= Coulee
881105	SPEAR	.	HRW	62.4	61.7	2.6	870	827	5	= Coulee

NURSCO 35

LOAF VOLUME VS PROTEIN HARD WHITE WINTER WHEAT



COMMENTS: There was a wide difference in protein content of the selections in this nursery. Some that were low and had poor prospects of bread making determined from the mixograms were not test baked. As a group they were all higher in loaf volume than expected for their protein content (See plot above). Those that appear near equal or better than Coulee are footnoted. See "Remarks" for deficiencies of other lines.

NURSCO 36

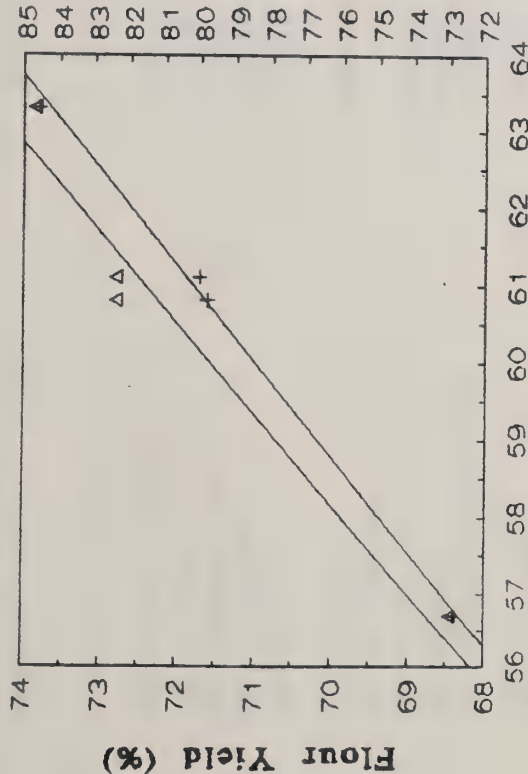
LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	CODI
881106 A			CLUB	56.7	68.4	0.47	73.0	13.0	55.7	8.45
881107 B			CLUB	61.1	71.7	0.38	82.4	6.3	51.6	9.08
881108 C			CLUB	60.8	71.6	0.39	82.4	7.7	51.5	9.27
881109 D			CLUB	63.3	73.8	0.39	84.7	8.4	50.6	8.81

LABNUM	VARIETY	IDNO	CLASS	CODIC	MTYPE	CAVOL	SCSOR	WTIN	NOSCOR	RMKS
881106 A			CLUB	8.73	2M	1280	74.0	346	68	
881107 B			CLUB	8.88	1L	1345	80.0	305	74	
881108 C			CLUB	9.18	1L	1380	82.0	354	75	
881109 D			CLUB	8.77	1M	1265	74.0	349	74	

COMMENTS: These four commercial club wheat samples were evaluated in cooperation with a project of the Washington Wheat Commission. They were selected to give a range in flour protein from 6-13%. The high protein sample (A) was notably shrivelled and low in test weight. Plots and statistical data on page 2 show a strong linear relationship between test weight and flour yield. The plots also show a typical negative relationship between protein and the quality of bakery products (cookies and cakes). None of these club wheats are quite equal to our long term expected values for milling properties. Sponge cake volume and score and cookie spread was also lower than expected for Sample (D).

INTERNATIONAL CLUBS TEST WIEGHT VS FLOUR MILLING

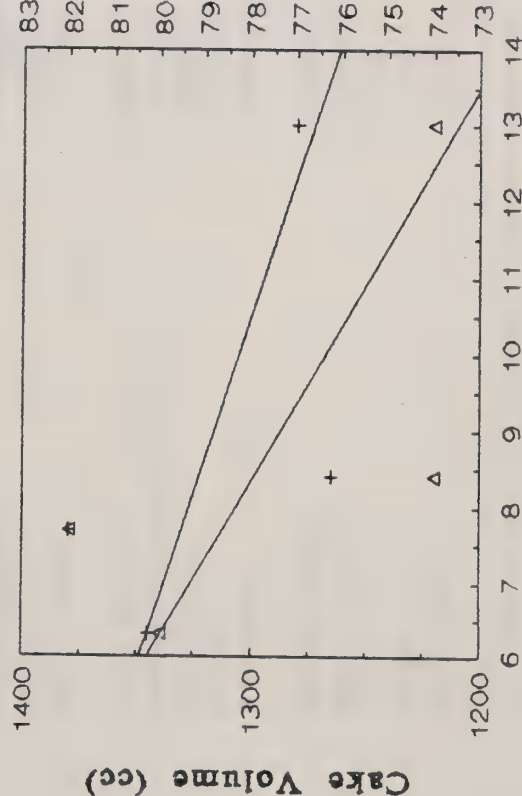
+ Flour Yield Δ Milling Scr



Test Wieght (lb/Bu)

INTERNATIONAL CLUBS PROTEIN VS SPONGE CAKE VOLUME & SCORE

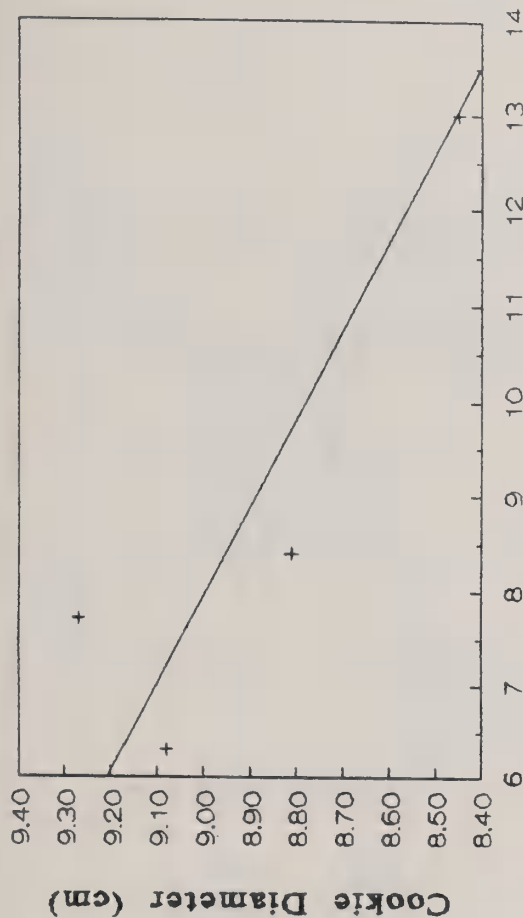
+ Cake Volume Δ Cake Score



Flour Protein (%)

INTERNATIONAL CLUBS PROTEIN VS COOKIE DIAMETER

+ Cookie Dia.



Flour Protein (%)

Statistical Data

<u>Correlation Coefficient</u>		Flour	Milling	Cookie	Cake	Cake
		<u>Yield</u>	<u>Score</u>	<u>Diameter</u>	<u>Volume</u>	<u>Score</u>
Test Weight		.99	.98			
Flour Protein				.88	.58	.68
Standard Dev. (SD)		2.2	5.1	.36	54.2	4.1
Coeff. of Variation(CV%)		3.1	6.4	4.0	4.1	5.3

TRITICALE QUALITY TEST

 USDA, ARS
 WESTERN WHEAT QUALITY LAB.
 PULLMAN, WA.

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PULLMAN, WA

C.J. PETERSON

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	CODI
881110 DAWS		C1017419	SWW	62.4	70.0	0.34	88.8	9.0	56.2	8.59
881111 WHITMAN		VT080011	TRIT	53.6	64.7	0.40	77.7	9.2	56.9	8.05
881112 B79-2372,6TA876/YOCO		VT082831	TRIT	54.8	65.5	0.38	80.0	8.7	54.9	8.73
881113 MT36/WHIT		VT082481	TRIT	55.2	67.1	0.36	83.3	8.1	56.0	8.17
881114 MT8219		MT008219	TRIT	55.6	65.6	0.42	77.6	9.7	53.3	8.23
881115 FLORA		VT083985	TRIT	45.6	62.8	0.48	70.3	9.4	56.0	8.18
881116 C177/FLORA		.	TRIT	50.8	63.1	0.44	73.2	9.4	53.5	8.46
881117 B756		6/AR00B756	TRIT	55.2	66.1	0.36	82.6	8.4	54.3	8.86
881118 JUAN		VT082821	TRIT	57.6	66.9	0.36	83.1	7.8	56.1	8.50
881119 M76-6276/791T2,WELSH		VT085139	TRIT	51.6	60.8	0.43	71.0	9.2	55.1	7.99
881120 STEPHENS		C1017569	SWW	60.4	69.2	0.37	85.4	9.7	54.7	9.24
881121 M76-6292/M76-6390-2		VT085464	TRIT	48.0	62.5	0.41	74.3	8.2	55.4	
881122 BOKOLO/M76-6390-2		VT086086	TRIT	48.8	63.4	0.44	73.7	9.3	51.8	8.02
881123 BOKOLO/M76-6390-2		VT086088	TRIT	46.0	65.0	0.46	74.6	10.2	52.5	8.19
881124 .		VT086094	TRIT	47.2	59.8	0.45	68.5	9.4	52.2	8.15
881125 .		VT086493	TRIT	52.0	62.3	0.44	72.2	9.2	53.4	8.09
881126 BOKOLO/WHIT		VT086497	TRIT	50.4	66.6	0.42	78.9	9.1	52.6	8.12
881127 BOKOLO/WHIT		VT086498	TRIT	48.4	65.0	0.43	76.6	9.5	55.2	8.20
881128 .		VT086464	TRIT	55.2	65.1	0.40	78.8	8.9	52.4	8.24
881129 LEWJAIN		C1017909	SWW	61.6	66.4	0.34	84.1	9.4	58.3	9.29
881130 MT36/WHIT		VT082478	TRIT	54.0	64.9	0.39	78.7	9.1	55.0	8.02
881131 SALINAS VALLEY CALIF1985		ARC19447	TRIT	56.4	66.5	0.43	78.2	8.6	54.9	8.37
881132 GRACE		VM070021	TRIT	53.6	66.2	0.43	77.8	9.4	55.1	8.23
881133 .		6/ARCOB943	TRIT	50.8	66.1	0.36	82.5	8.5	55.7	8.92
881134 8896		ARC19313	TRIT	56.4	65.9	0.40	79.2	8.9	52.3	8.26
881135 A876-10-1		6/AR876101	TRIT	54.8	67.7	0.37	84.0	7.2	51.3	9.05
881136 C1193-16		ARC19316	TRIT	56.0	67.4	0.39	81.8	8.5	52.1	8.41
881137 .		VT087121	TRIT	51.6	68.7	0.39	83.5	7.6	52.9	8.48
881138 .		VT087124	TRIT	44.8	56.6	0.46	63.6	10.3	52.9	7.82
881139 DUSTY		PI486429	SWW	62.8	70.3	0.34	89.3	8.0	57.6	9.30

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 9% Protein

4/ Observed Values Corrected to 9% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

LABNUM	VARIETY	IDNO	CLASS	CODIC 4/	MTYPE	RMKS
881110	DAWS	C1017419	SWW	8.59	3L	
881111	WHITMAN	VT080011	TRIT	8.07	2M	P-FYELD, CODI
881112	B79-2372, 6TA876/YOCO	VT082831	TRIT	8.69	2L	Q-FYELD
881113	MT36/WHIT	VT082481	TRIT	8.08	2M	P-CODI
881114	MT8219	MT080219	TRIT	8.30	1M	Q-FYELD, P-CODI
881115	FLORA	VT083985	TRIT	8.22	1M	P-FYELD, CODI
881116	C177/FLORA	.	TRIT	8.51	2M	P-FYELD
881117	B756	AR008756	TRIT	8.80	1M	
881118	JUAN	VT082821	TRIT	8.37	3L	P-CODI
881119	M76-6276/791T2, WELSH	VT085139	TRIT	8.01	3M	P-FYELD, CODI
881120	STEPHENS	C1017569	SWW	9.31	2M	
881121	M76-6292/M76-6390-2	VT085464	TRIT		2M	P-FYELD
881122	BOKOLO/M76-6390-2	VT086086	TRIT	8.06	1M	P-FYELD, CODI
881123	BOKOLO/M76-6390-2	VT086088	TRIT	8.32	1M	Q-FYELD, P-CODI
881124	.	VT086094	TRIT	8.19	2M	P-FYELD, CODI
881125	.	VT086493	TRIT	8.11	2M	P-FYELD, CODI
881126	BOKOLO/WHIT	VT086497	TRIT	8.14	2M	P-CODI
881127	BOKOLO/WHIT	VT086498	TRIT	8.26	2M	Q-FYELD, P-CODI
881128	.	VT086464	TRIT	8.23	2M	Q-FYELD, P-CODI
881129	LEWJAIN	C1017909	SWW	9.33	1M	
881130	MT36/WHIT	VT082478	TRIT	8.04	2M	P-FYELD, CODI
881131	SALINAS VALLEY CALIF1985	ARC19447	TRIT	8.33	2M	P-CODI
881132	GRACE	VM070021	TRIT	8.27	2M	P-CODI
881133	.	ARC08943	TRIT	8.87	2M	
881134	B896	ARC19313	TRIT	8.25	1M	P-CODI
881135	A876-10-1	AR876101	TRIT	8.85	1L	
881136	C1193-16	ARC19316	TRIT	8.36	1M	P-CODI
881137	.	VT087121	TRIT	8.32	2L	P-CODI
881138	.	VT087124	TRIT	7.97	2M	P-FYELD, CODI
881139	DUSTY	P1486429	SWW	9.19	4L	

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PULLMAN, WA

C.J. PETERSON

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	CODI
881140	M76-6276/P1386122									
881141 .		VT087127	TRIT	53.6	65.7	0.44	76.6	8.3	56.2	8.52
881142 .		VT087488	TRIT	54.4	66.0	0.34	83.2	7.7	53.3	8.11
881143 .		6/ VT087489	TRIT	56.4	68.4	0.36	85.5	7.6	54.1	9.04
881144 .		VT087497	TRIT	52.4	64.5	0.39	78.2	9.5	52.9	8.29
		VT087498	TRIT	52.0	61.0	0.38	74.3	7.9	52.7	8.15
881145 .		VT087501	TRIT	51.6	62.6	0.42	73.8	8.0	53.6	8.20
881146 .		VT087503	TRIT	54.0	65.9	0.39	79.9	8.9	54.1	8.58
881147 .		VT087507	TRIT	56.8	61.6	0.36	76.3	10.2	53.8	8.62
881148 LASKO		.	TRIT	58.4	68.5	0.37	85.0	8.4	51.4	8.54
881149 ITS83232		VT083232	TRIT	58.8	63.6	0.42	75.2	8.8	50.0	8.14
881150 .		6/ C337	TRIT	56.0	69.5	0.43	82.0	8.9	50.5	8.62
881151 .		C360	TRIT	59.6	67.6	0.41	80.8	6.9	54.1	8.37
881152 .		C367	TRIT	56.4	67.7	0.41	81.0	9.1	51.3	8.46
881153 .		/LO415	TRIT	52.8	65.9	0.40	79.3	8.6	51.2	8.44

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PULLMAN, WA

C.J. PETERSON

LABNUM	VARIETY	IDNO	CLASS	CODIC 4/	MTYPE	RMKS
881140	M76-6276/PI386122	VT087127	TRIT	8.45	1M	Q-FYELD, CODI
881141 .		VT087488	TRIT	7.97	3M	P-CODI
881142 .		VT087489	TRIT	8.88	2L	
881143 .		VT087497	TRIT	8.34	1M	P-FYELD, CODI
881144 .		VT087498	TRIT	8.03	2M	P-FYELD, CODI
881145 .		VT087501	TRIT	8.09	2M	P-FYELD, CODI
881146 .		VT087503	TRIT	8.57	3M	Q-CODI
881147 .		VT087507	TRIT	8.76	1M	P-FYELD
881148 LASKO		.	TRIT	8.47	1M	Q-CODI
881149 ITSN83232		VT083232	TRIT	8.12	2M	P-FYELD, CODI
881150 .		C337	TRIT	8.61	2M	
881151 .		C360	TRIT	8.14	3L	P-CODI
881152 .		C367	TRIT	8.47	2M	Q-CODI
881153 .		/LO415	TRIT	8.39	2M	P-CODI

COMMENTS: In nearly all quality characteristics, the Triticale selections did not measure up to the soft white wheat variety checks, therefore the Triticale selections having better overall quality characteristics (within the triticales) were noted.

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CULDESAC, ID

W.L. MCPROUD

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	COOI
881154 DAWS		.	SWW	59.6	67.8	0.33	86.2	9.9	58.6	8.77
881155 STEPHENS		.	SWW	58.4	71.6	0.36	89.1	10.2	57.9	9.19
881156 NUGAINES		.	SWW	60.4	66.8	0.35	83.8	9.4	55.8	8.87
881157 SYRINGA		6/ 80-WW-5	SWW	59.2	68.7	0.38	84.4	10.0	57.2	8.94
881158 .		6/ 79-WW-57A	SWW	58.8	69.4	0.39	84.5	10.0	60.4	8.98
881159 .		6/ 83-WW-11	SWW	59.2	67.2	0.33	85.4	10.7	58.6	9.05
881160 .		83-WW-12	SWW	58.8	65.9	0.36	81.9	10.7	59.9	8.91
881161 .		83-WW-34	SWW	57.2	66.6	0.36	82.8	11.0	59.1	8.87
881162 .		83-WW-41	SWW	59.6	68.9	0.32	88.2	10.4	59.2	8.77
881163 .		6/ 83-WW-43	SWW	58.0	68.4	0.31	88.2	10.7	55.8	8.98
881164 .		5/ 83-WW-56	SWW	57.6	72.5	0.35	90.9	10.2	56.6	9.02
881165 .		6/ 83-WW-57	SWW	61.2	70.5	0.35	88.3	10.3	56.6	8.94
881166 .		83-WW-58	SWW	61.2	72.8	0.37	89.9	10.8	56.8	8.67
881167 .		6/ 83-WW-59	SWW	60.0	69.8	0.42	82.9	10.9	57.3	9.08
881168 .		83-WW-99	SWW	57.6	67.1	0.42	80.1	11.0	58.8	8.76
881169 .		6/ 83-WW-132	SWW	59.6	68.2	0.34	86.6	10.9	61.3	8.95
881170 .		6/ 83-WW-134	SWW	62.0	69.8	0.34	88.5	9.9	54.6	8.85
881171 .		5/ 83-WW-176	SWW	60.0	71.7	0.33	91.6	10.6	55.1	9.15
881172 .		83-WW-184	SWW	60.0	68.4	0.41	81.9	11.0	56.4	8.75
881173 .		83-WW-186	SWW	59.6	67.5	0.39	82.5	10.2	58.0	9.27
881174 .		6/ 83-WW-191	SWW	58.0	70.5	0.39	85.8	11.2	56.8	8.79
881175 .		83-WW-196	SWW	59.6	67.5	0.36	84.4	10.7	59.0	8.95
881176 .		6/ 85-WW-1	SWW	61.2	71.2	0.33	90.4	10.6	59.3	8.91
881177 .		6/ 85-WW-5	SWW	58.8	71.1	0.37	87.8	10.5	58.0	8.87
881178 .		6/ 85-WW-6	SWW	61.2	69.5	0.36	86.3	10.7	59.4	8.95
881179 .		87-WW-23	SWW	59.2	68.7	0.39	84.0	10.5	58.8	8.77
881180 .		6/ 87-WW-25	SWW	59.2	68.9	0.37	85.0	10.6	61.5	8.85
881181 .		5/ 87-WW-71	SWW	63.2	71.3	0.31	92.5	10.9	61.0	8.91
881182 .		5/ 87-WW-74	SWW	62.8	71.6	0.33	91.6	10.8	61.7	9.06
881183 .		5/ 87-WW-84	SWW	57.6	70.7	0.37	87.3	10.1	58.9	9.25

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 10% Protein

4/ Observed Values Corrected to 10% Protein

5/

Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

NURSCO 38

CULDESAC, ID

W.L. MCPROUD

LABNUM	VARIETY	IDNO	CLASS	CODIC 4/	MTYPE	RMKS
881154	DAWS	.	SWW	8.65	3M	
881155	STEPHENS	.	SWW	9.10	1M	
881156	NUGAINES	.	SWW	8.70	2M	
881157	SYRINGA	80-WW-5	SWW	8.83	3M	
881158	.	79-WW-57A	SWW	8.87	4M	
881159	.	83-WW-11	SWW	9.02	3M	Q-FYELD
881160	.	83-WW-12	SWW	8.88	2M	P-FYELD
881161	.	83-WW-34	SWW	8.87	2M	Q-P-FYELD
881162	.	83-WW-41	SWW	8.71	2M	Q-CODI
881163	.	83-WW-43	SWW	8.94	1M	
881164	.	83-WW-56	SWW	8.94	2M	
881165	.	83-WW-57	SWW	8.86	2M	
881166	.	83-WW-58	SWW	8.65	2M	Q-P-CODI
881167	.	83-WW-59	SWW	9.06	2M	
881168	.	83-WW-99	SWW	8.76	2M	P-FYELD
881169	.	83-WW-132	SWW	8.94	2M	
881170	.	83-WW-134	SWW	8.73	1M	
881171	.	83-WW-176	SWW	9.11	2M	
881172	.	83-WW-184	SWW	8.75	1M	Q-FYELD
881173	.	83-WW-186	SWW	9.19	2M	Q-FYELD, Excellent CODI
881174	.	83-WW-191	SWW	8.81	2M	
881175	.	83-WW-196	SWW	8.92	2M	Q-FYELD
881176	.	85-WW-1	SWW	8.87	1M	
881177	.	85-WW-5	SWW	8.82	2M	
881178	.	85-WW-6	SWW	8.92	3M	
881179	.	87-WW-23	SWW	8.72	2M	Q-FYELD, CODI
881180	.	87-WW-25	SWW	8.81	3M	
881181	.	87-WW-71	SWW	8.90	2M	
881182	.	87-WW-74	SWW	9.04	3M	
881183	.	87-WW-84	SWW	9.15	1M	

PLANT BREEDERS I

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

W.L. MCPROUD

CULDESAC, ID

NURSCO 38

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	COOI
881184 .		<u>5/</u> 87-WW-85	SWW	62.4	71.2	0.32	91.1	10.9	61.0	8.95
881185 .		<u>6/</u> 87-WW-87	SWW	62.4	68.7	0.37	85.3	10.7	61.0	8.86
881186 .		87-WW-95	SWW	60.4	67.9	0.32	87.4	10.8	61.4	8.80
881187 .		87-WW-105	SWW	58.8	69.0	0.37	85.1	10.0	62.1	8.86
881188 .		<u>6/</u> 87-WW-106	SWW	59.2	70.1	0.39	85.8	9.8	60.9	9.09
881189 .		87-WW-145	SWW	58.8	69.5	0.34	87.7	10.8	60.1	8.79
881190 .		87-WW-147	SWW	59.2	70.1	0.34	88.5	10.8	59.3	8.73
881191 .		<u>6/</u> 87-WW-149	SWW	60.4	70.2	0.36	87.5	10.4	58.0	8.86
881192 .		<u>6/</u> 87-WW-150	SWW	59.6	69.2	0.35	86.6	11.0	59.5	8.96
881193 .		<u>6/</u> 87-WW-152	SWW	58.8	69.0	0.34	87.0	10.8	60.7	8.85

NURSCO 38	CULDESAC, ID			W.L. MCPROUD		
LABNUM	VARIETY	IDNO	CLASS	CODIC	MTYPE	RHKS
881184 .		87-WW-85	SWW	8.94	3M	
881185 .		87-WW-87	SWW	8.83	2M	
881186 .		87-WW-95	SWW	8.78	2M	Q-CODI
881187 .		87-WW-105	SWW	8.75	2M	Q-CODI
881188 .		87-WW-106	SWW	8.96	2M	
881189 .		87-WW-145	SWW	8.77	1M	Q-CODI
881190 .		87-WW-147	SWW	8.70	2M	Q-CODI
881191 .		87-WW-149	SWW	8.80	1M	
881192 .		87-WW-150	SWW	8.96	2M	
881193 .		87-WW-152	SWW	8.83	3M	

COMMENTS: Several of these selections (footnoted) have overall soft wheat quality equal to the mean of the check varieties. The 87-WW selections appear to be higher in water absorption than the other selections, which is not a good character. See "Remarks" for some concerned deficiencies.

NURSCO 39

P.K. ZWER

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	COOI
881194 1-TOP			SHW	61.6	72.5	0.37	89.6	10.8	58.0	9.31
881195 2-MIDDLE			SHW	61.6	73.0	0.38	89.7	11.4	58.2	9.11
881196 3-BASE			SHW	61.6	72.8	0.37	90.0	11.9	59.4	9.00

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 11% Protein

4/ Observed Values Corrected to 11% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

NURSCO 39

P.K. ZWER

LABNUM	VARIETY	IDNO	CLASS	CODIC 4/	MTYPE	RMKS
881194 1-TOP			SWW	9.29	2M	Excellent CODI
881195 2-MIDDLE			SWW	9.16	2M	Excellent CODI
881196 3-BASE			SWW	9.10	2M	Good CODI

COMMENTS: Cookie diameters were very good to excellent for these 3 samples even though flour protein would be considered too high for good cookie quality. Overall they had good milling properties and baking quality. The range in flour protein was over 1%.

NURSCO 40

P.K. ZWER

PENDLETON, OR

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	CODI
881197 STEPHENS		C117596	SWW	61.1	73.7	0.37	87.3	9.1	50.5	9.07
881198 DUSTY		P1486429	SWW	62.4	72.4	0.33	86.6	7.8	52.8	9.18
881199 CREW		C117951	CLUB	61.6	74.3	0.38	87.0	7.4	48.8	8.73
881200 TRES		WA6698	CLUB	62.8	73.3	0.33	88.7	7.4	47.8	9.11
881201 HILL81		OR68007	SWW	62.2	74.5	0.36	89.0	8.4	50.0	8.74
881202 WANSEER		C113844	HRW	64.3	70.0	0.26	86.7	8.4	51.9	8.44
881203 UNKNOWN CLUB		86-314	CLUB	61.5	72.3	0.34	86.2	7.7	49.7	8.81
881204 PAHA//SEL.72330/DAWS(M76-429)PW77-41		86-315	CLUB	63.5	71.1	0.22	90.8	7.0	50.4	8.67
881205 UNKNOWN CLUB		6/86-297	CLUB	61.9	72.3	0.34	86.7	7.1	48.8	8.90
881206 JCM/3/EG/178383//2*YMH		86-395	CLUB	61.3	71.1	0.28	88.0	7.6	50.1	9.49
881207 EG/178383		86-516	CLUB	61.5	72.2	0.36	84.2	7.6	51.4	8.81
881208 UNKNOWN CLUB		86-1165	CLUB	62.1	72.6	0.24	91.9	7.3	50.4	8.95
881209 SPN/JCM		6/86-1077	CLUB	61.0	72.2	0.35	85.7	6.7	49.9	9.40
881210 DAWS/FARO		6/86-1091	CLUB	60.1	74.1	0.35	88.7	6.0	49.8	8.85
881211 UNKNOWN CLUB		86-1097	CLUB	60.9	74.2	0.36	88.6	6.8	50.8	9.09
881212 JCM/4/TBS/ANZA/3/KVZ/HYS//YMH/TOB65		86-1129	CLUB	63.3	72.1	0.37	83.7	7.2	51.8	8.80
881213 PAHA//SEL.72-330/DAWS(M76-429)PW77-41		86-1216	CLUB	63.0	73.8	0.39	84.6	6.8	51.6	8.76
881214 EG/178383		86-1224	CLUB	63.2	70.3	0.46	77.8	7.3	53.1	8.75
881215 PAHA//SEL.M72-330/DAWS(M76-429)PW77-41		6/86-1299	CLUB	63.6	73.4	0.40	85.3	7.3	52.1	9.14
881216 UNKNOWN CLUB		86-1310	CLUB	61.1	73.2	0.40	85.7	7.4	52.5	8.94
881217 PAHA//SEL.65-2124(M76-432)		86-1324	CLUB	61.5	71.7	0.38	82.3	7.1	51.9	8.67
881218 ANZA/CERCO		87-215	HRW	62.2	65.9	0.38	72.8	8.7	53.3	8.23
881219 VORO/MARIS NIMROD		87-478	HRW	59.9	60.3	0.37	65.4	7.3	54.7	8.25
881220 VORO/CERCO		87-492	HRW	60.0	62.1	0.37	69.6	7.6	55.0	8.24
881221 VPM/MOS-951//HILL81/3/SPN/4/HILL		87-561	CLUB	61.5	72.0	0.35	86.0	7.2	52.9	8.86
881222 YMH/HYS//VPM/MOS4-2-16-1-7		87-575	CLUB	62.5	71.1	0.38	81.8	7.3	51.8	8.74
881223 YMH/HYS//VPM/MOS4-2-16-1-7		87-576	CLUB	62.5	71.8	0.38	83.5	7.4	51.5	8.85
881224 HYS/CER,F1//YMH/HYS		87-592	CLUB	62.4	71.6	0.39	83.2	6.9	51.0	8.16
881225 CER/HYSLOP 9401,F1//VPM/MOS 41-2-2-11		87-609	CLUB	62.2	72.1	0.37	85.3	8.0	51.1	8.76
881226 I-372/ROMAINIAN,FG-70//ZORBA		87-636	CLUB	63.6	71.8	0.38	84.2	7.0	50.6	9.07

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 7% Protein

4/ Observed Values Corrected to 7% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

P.K. ZWER

PENDLETON, OR

NURSCO 40

LABNUM	VARIETY	IDNO	CLASS	CODIC 4/	MTYPE	CAVOL	SCSOR	RMKS
881197 STEPHENS		C117596	SWM	9.31	2M	1215	70.0	
881198 DUSTY		PI486429	SWM	9.26	4L	1220	70.0	
881199 CREW		C117951	CLUB	8.75	2L	1245	70.0	
881200 TRES		WA6698	CLUB	9.14	1L	1280	78.0	
881201 HILL81		OR68007	SWM	8.89	2L	1225	71.0	
881202 WANSEER		C113844	HRW	8.55	4M	1115	60.0	
881203 UNKNOWN CLUB		86-314	CLUB	8.86	2L	1170	65.0	P-SCSOR
881204 PAHA//SEL.72330/DAWS(M76-429)PW77-41		86-315	CLUB	8.67	2L	1265	74.0	Q-FYELD, P-CODI
881205 UNKNOWN CLUB		86-297	CLUB	8.91	1L	1315	77.0	
881206 JCM/3/EG/178383//2*YMH		86-395	CLUB	9.53	2L	1228	72.0	
881207 EG/178383		86-516	CLUB	8.86	1L	1230	69.0	Q-SCSOR
881208 UNKNOWN CLUB		86-1165	CLUB	8.97	2L	1265	72.0	
881209 SPN/JCM		86-1077	CLUB	9.38	2L	1335	80.0	
881210 DAWS/FARO		86-1091	CLUB	8.78	1L	1305	78.0	
881211 UNKNOWN CLUB		86-1097	CLUB	9.07	1L	1215	68.0	Q-SCSOR
881212 JCM/4/TBS/ANZA/3/KVZ/HYS//YMH/T0B65		86-1129	CLUB	8.81	2L	1220	69.0	Q-SCSOR
881213 PAHA//SEL.72-330/DAWS(M76-429)PW77-41		86-1216	CLUB	8.75	2L	1180	67.0	Q-CODI, Q-SCSOR
881214 EG/178383		86-1224	CLUB	8.77	3L	1275	75.0	P-FYELD, Q-CODI
881215 PAHA//SEL.M72-330/DAWS(M76-429)PW77-41		86-1299	CLUB	9.16	2L	1280	74.0	
881216 UNKNOWN CLUB		86-1310	CLUB	8.97	2L	1265	75.0	
881217 PAHA//SEL.65-2124(M76-432)		86-1324	CLUB	8.68	2L	1290	72.0	Q-FYELD, P-CODI
881218 ANZA/CERCO		87-215	HRW	8.36	3M	1140	61.0	P-FYELD, P-CODI, P-SCSOR
881219 VORO/MARIS NIMROD		87-478	HRW	8.27	2L	1135	61.0	P-FYELD, P-CODI, P-SCSOR
881220 VORO/CERCO		87-492	HRW	8.29	4L	1055	57.0	P-FYELD, P-CODI, P-SCSOR
881221 VPM/MOS-951//HILL81/3/SPN/4/HILL		87-561	CLUB	8.88	1L	1240	72.0	
881222 YMH/HYS//VPM/MOS4-2-16-1-7		87-575	CLUB	8.76	2L	1280	76.0	P-FYELD, Q-CODI
881223 YMH/HYS//VPM/MOS4-2-16-1-7		87-576	CLUB	8.88	1L	1270	71.0	Q-FYELD
881224 HYS/CER,F1//YMH/HYS		87-592	CLUB	8.16	2L	1155	64.0	Q-FYELD, P-CODI
881225 CER/HYSLOP 9401,F1//VPM/MOS 41-2-2-11		87-609	CLUB	8.83	2L	1285	74.0	
881226 I-372/ROMAINIAN,FG-70//ZORBA		87-636	CLUB	9.07	2L	1245	71.0	Q-FYELD

NURSCO 40

PENDLETON, OR

P.K. ZWER

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT ‡/	MABSC 3/	COOI
881227	UNKNOWN CLUB	87-678	CLUB	60.5	73.2	0.39	85.2	6.8	50.8	8.91
881228	UNKNOWN CLUB	87-680	CLUB	61.4	73.8	0.37	86.7	7.3	50.2	8.73
881229	PAHA//SEL.72-330/DAWS(M76-429)PW77-41	87683	CLUB	63.3	72.8	0.40	85.0	6.9	50.2	9.05
881230	PAHA//SEL.72-330/DAWS(M76-429)PW77-41	87-684	CLUB	63.4	70.6	0.36	82.5	7.0	52.7	9.20
881231	UNKNOWN CLUB	87-757	CLUB	60.6	72.4	0.40	83.7	7.8	51.4	8.68
881232	PAHA//SEL.72-330/DAWS(M76-429)PW77-41	87-790	CLUB	64.4	71.0	0.42	81.2	7.2	53.0	8.66
881233	PAHA//SEL.72-330/DAWS(M76-429)PW77-41	87-834	CLUB	62.7	69.8	0.37	81.7	6.0	53.1	9.14
881234	EG/178383//2*YMH/3/YMH,DW	6/ 87-847	CLUB	60.5	72.0	0.37	85.9	5.9	52.3	9.14
881235	EG/178383//2*YMH/3/YMH,DW	87-851	CLUB	62.7	72.3	0.36	85.9	6.7	51.2	8.86
881236	PAHA//SEL.M72-330/DAWS(M76-429)	5/ 87-872	CLUB	61.1	73.1	0.36	86.6	6.7	51.2	9.25
881237	MORO	87-887	CLUB	62.5	71.1	0.39	81.6	6.8	52.6	8.86
881238	PAHA//SEL.M72-330/DAWS(M76-429)	5/ 87-895	CLUB	61.0	73.5	0.38	86.6	6.3	52.1	9.52
881239	OR 816	5/ 87-916	CLUB	61.0	73.1	0.38	86.3	6.3	51.9	9.25
881240	EG/178383//2*YMH/3/YMH,DW	87-935	CLUB	61.9	72.9	0.35	87.3	7.2	53.0	8.75
881241	DAWS/FARO	87-965	CLUB	60.3	72.9	0.31	90.3	6.6	52.8	8.96
881242	OWJ790135,F1/6/YMH/PCH/4/OMAR/3/N10B//KT	87-966	CLUB	63.7	72.0	0.38	82.2	7.4	52.0	8.98
881243	DAWS/FARO	87-982	CLUB	61.2	73.1	0.35	87.2	6.6	52.7	8.94
881244	DAWS/FARO	87-983	CLUB	60.3	72.5	0.38	84.3	7.2	51.5	9.08
881245	MRS/CI14482	87-991	CLUB	61.2	71.8	0.35	84.8	6.9	51.9	9.02
881246	EG/178383,M65-2124//YMH*2/3/AU/ERA	87-1016	CLUB	61.6	70.4	0.39	81.1	6.4	53.3	9.14
881247	SEL.M72-330/DAWS//DAWS(M76-441)	87-1022	CLUB	62.7	70.4	0.36	82.8	6.7	53.0	8.64
881248	EG/178383,M65-2124/YMH*2/3/1523/DRC-11	87-1028	CLUB	61.5	71.7	0.42	81.3	6.7	52.6	8.65
881249	EG/178383,M65-2124/YMH*2/3/1523/DRC-11	87-1031	CLUB	62.6	72.2	0.37	85.1	7.7	52.6	9.02
881250	DAWS*2/M72-330(PW77-43)	87-1033	CLUB	61.3	70.5	0.37	82.3	6.3	52.1	8.59
881251	DAWS*2/M72-330(PW77-43)	87-1034	CLUB	61.6	72.1	0.39	84.4	7.0	51.8	8.66
881252	DAWS/FARO	87-1039	CLUB	62.1	71.5	0.35	85.2	5.8	52.5	8.85
881253	OR803	87-1070	CLUB	61.1	70.9	0.41	82.5	6.2	52.4	8.86
881254	YMH/TOB//BEZ/3/SPN//63-189-66-7/BEZ	87-1078	CLUB	63.8	70.9	0.36	83.4	7.1	52.3	9.10
881255	YMH/TOB//BEZ/3/SPN//63-189-66-7/BEZ	87-1079	CLUB	64.0	70.9	0.38	82.1	6.9	53.0	9.07
881256	YMH/TOB//BEZ/3/SPN//63-189-66-7/BEZ	87-1083	CLUB	60.0	71.9	0.34	85.4	8.2	50.4	8.98

NURSCO 40

PENDLETON, OR

P.K. ZWER

LABNUM	VARIETY	IDNO	CLASS	CODIC 4/	MTYPE	CAVOL	SCSOR	RMKS
881227	UNKNOWN CLUB	87-678	CLUB	8.90	2L	1235	72.0	
881228	UNKNOWN CLUB	87-680	CLUB	8.75	3L	1230	71.0	Q-CODI
881229	PAHA//SEL.72-330/DAWS(M76-429)PW77-41	87683	CLUB	9.04	2L	1275	75.0	
881230	PAHA//SEL.72-330/DAWS(M76-429)PW77-41	87-684	CLUB	9.20	2L	1265	75.0	P-FYELD
881231	UNKNOWN CLUB	87-757	CLUB	8.73	2L	1260	75.0	Q-CODI
881232	PAHA//SEL.72-330/DAWS(M76-429)PW77-41	87-790	CLUB	8.68	2L	1240	73.0	Q-FYELD, P-CODI
881233	PAHA//SEL.72-330/DAWS(M76-429)PW77-41	87-834	CLUB	9.07	1L	1245	70.0	P-FYELD, Q-SCSOR
881234	EG/178383//2*YMH/3/YMH,DW	87-847	CLUB	9.06	2L	1325	77.0	
881235	EG/178383//2*YMH/3/YMH,DW	87-851	CLUB	8.84	1L	1325	77.0	
881236	PAHA//SEL.M72-330/DAWS(M76-429)	87-872	CLUB	9.23	2L	1355	79.0	
881237	MORO	87-887	CLUB	8.85	3L	1295	72.0	P-FYELD
881238	PAHA//SEL.M72-330/DAWS(M76-429)	87-895	CLUB	9.48	1L	1345	78.0	
881239	OR 816	87-916	CLUB	9.20	1L	1355	81.0	
881240	EG/178383//2*YMH/3/YMH,DW	87-935	CLUB	8.76	1L	1270	74.0	Q-CODI
881241	DAWS/FARO	87-965	CLUB	8.93	1L	1270	74.0	
881242	OWJ790135,F1/6/YMH/PCH/4/OMAR/3/N10B//KT	87-966	CLUB	9.00	2L	1265	73.0	
881243	DAWS/FARO	87-982	CLUB	8.91	2L	1260	71.0	
881244	DAWS/FARO	87-983	CLUB	9.09	2L	1275	75.0	
881245	MRS/CI14482	87-991	CLUB	9.02	2L	1330	78.0	Q-FYELD
881246	EG/178383,M65-2124//YMH*2/3/AU/ERA	87-1016	CLUB	9.09	2L	1320	76.0	P-FYELD
881247	SEL.M72-330/DAWS//DAWS(M76-441)	87-1022	CLUB	8.62	2L	1260	73.0	P-FYELD, P-CODI
881248	EG/178383,M65-2124/YMH*2/3/1523/DRC-11	87-1028	CLUB	8.63	2L	1210	70.0	Q-FYELD, P-CODI, Q-SCSOR
881249	EG/178383,M65-2124/YMH*2/3/1523/DRC-11	87-1031	CLUB	9.07	2L	1255	73.0	
881250	DAWS*2/M72-330(PW77-43)	87-1033	CLUB	8.54	2L	1270	74.0	P-FYELD, P-CODI
881251	DAWS*2/M72-330(PW77-43)	87-1034	CLUB	8.66	3L	1275	71.0	P-CODI
881252	DAWS/FARO	87-1039	CLUB	8.76	1L	1295	76.0	Q-FYELD, Q-CODI
881253	OR803	87-1070	CLUB	8.81	2L	1255	72.0	Q-FYELD, Q-CODI
881254	YMH/TOB//BEZ/3/SPN//63-189-66-7/BEZ	87-1078	CLUB	9.11	2L	1240	72.0	Q-FYELD
881255	YMH/TOB//BEZ/3/SPN//63-189-66-7/BEZ	87-1079	CLUB	9.07	4L	1215	68.0	Q-FYELD, P-SCSOR
881256	YMH/TOB//BEZ/3/SPN//63-189-66-7/BEZ	87-1083	CLUB	9.06	1M	1325	77.0	

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PENDLETON, OR

P. K. ZWER

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	CODI
881257	I-607/CAMA//SENCOR CLUB	87-1099	CLUB	62.4	69.2	0.41	77.8	8.1	51.3	8.87
881258	OR8031	87-1147	CLUB	62.6	71.6	0.39	82.6	6.4	51.8	8.80
881259	DAWS*2/SEL.M72-330,PW77-43	87-1170	CLUB	62.3	69.9	0.36	81.5	6.5	52.2	8.76
881260	EG/178383,M65-2124//YMH*2/3/1523/DRC-1 1	87-1179	CLUB	62.1	69.2	0.42	76.8	6.4	52.4	8.69
881261	YMH/TOB//BEZ/3/SPN//63-189-66-7/BEZ	87-1193	CLUB	64.0	69.5	0.32	83.2	6.3	52.5	9.04
881262	YMH/TOB//BEZ/3/SPN//63-189-77-6/BEZ	87-1237	CLUB	63.9	70.4	0.39	80.5	6.5	52.6	8.99
881263	YMH/TOB//BEZ/3/SPN//63-189-77-6/BEZ	87-1250	CLUB	64.1	71.5	0.37	83.8	7.1	53.4	8.95
881264	YMH/TOB//BEZ/3/SPN//63-189-66-7/BEZ	87-1260	CLUB	64.0	72.7	0.35	86.1	6.6	53.1	8.95
881265	YMH/TOB//BEZ/3/SPN//63-189-66-7/BEZ	87-1271	CLUB	63.9	72.0	0.39	83.3	6.9	52.7	9.41
881266	PAHA//SEL.M72-330/DAWS(M76-429)	6/ 87-1285	CLUB	59.3	74.1	0.39	86.1	6.0	51.7	9.17

NURSCO 40

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LABNUM	VARIETY	IDNO	CLASS	CODIC 4/	MTYPE	CAVOL	SCSOR	RMKS
881257	I-607/CAMA//SENCOR CLUB	87-1099	CLUB	8.95	2L	1265	74.0	P-FYELD
881258	OR8031	87-1147	CLUB	8.76	1L	1200	70.0	Q-FYELD, Q-CODI, Q-SCSOR
881259	DAWS*2//SEL.M72-330, PW77-43	87-1170	CLUB	8.73	2L	1300	76.0	P-FYELD, Q-CODI
881260	EG/178383, M65-2124//YMH*2/3/1523/DRC-1 1	87-1179	CLUB	8.64	2L	1250	71.0	P-FYELD, P-CODI
881261	YMH/TOB//BEZ/3/SPN//63-189-66-7/BEZ	87-1193	CLUB	8.99	2L	1230	70.0	P-FYELD, Q-SCSOR
881262	YMH/TOB//BEZ/3/SPN//63-189-77-6/BEZ	87-1237	CLUB	8.95	2L	1215	70.0	P-FYELD, Q-SCSOR
881263	YMH/TOB//BEZ/3/SPN//63-189-77-6/BEZ	87-1250	CLUB	8.96	5L	1185	70.0	Q-FYELD, Q-SCSOR
881264	YMH/TOB//BEZ/3/SPN//63-189-66-7/BEZ	87-1260	CLUB	8.92	2L	1205	69.0	Q-SCSOR
881265	YMH/TOB//BEZ/3/SPN//63-189-66-7/BEZ	87-1271	CLUB	9.41	2L	1220	70.0	Q-SCSOR
881266	PAHA//SEL.M72-330/DAWS(M76-429)	87-1285	CLUB	9.10	2L	1285	75.0	

COMMENTS: Flour protein of this nursery averaged 7% which is an excellent level for sponge cake and cookie quality.

Several selections had questionable to poor sponge cake quality, questionable to poor flour yield, or questionable to poor cookie spread. See remarks and footnotes.

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WINTER VARIETY YIELD TRIAL

P.K. ZWER

LEXINGTON, OR

NURSCO 41

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
881267 STEPHENS		C117596	SWW	60.3	70.5	0.40	85.2	7.3	52.0	2L
881268 HILL81		OR68007	SWW	60.7	72.3	0.40	87.5	7.3	52.3	2L
881269 DUSTY		PI486429	SWW	61.2	70.6	0.41	84.7	6.9	49.7	3L
881270 OVESON		PI512338	SWW	60.2	68.4	0.40	82.6	6.7	52.4	7L
881271 MALCOLM		ORCW8113	SWW	60.5	69.6	0.38	85.2	6.8	51.7	2L
881272 CREW		C117951	CLUB	59.7	72.0	0.40	87.1	6.3	51.0	1L
881273 TRES		C117917	CLUB	60.8	71.7	0.38	87.9	6.4	48.0	1L
881274 BASIN		.	SWW	61.5	67.3	0.31	87.1	6.6	52.3	1L
881275 CASHUP		.	SWW	60.9	68.9	0.40	83.1	6.3	51.6	2L
881276 TRES/TYEE/FARO/JACMAR		6/.	CLUB	59.3	70.9	0.39	86.3	6.4	50.9	2L
881277 7C/CNO//CAL/3/YMH		6/ ORCW8314	SWW	60.3	70.4	0.38	86.3	6.7	51.4	2L
881278 VPM/MOS9511/2*OR68007		6/ WA7163	SWW	60.7	72.2	0.41	86.7	7.1	51.7	3L
881279 VPM/MOS9511/2*TYEE		6/ WA7166	CLUB	59.7	69.8	0.38	85.5	6.3	52.8	5L
881280 DAWS		C117419	SWW	60.6	69.0	0.39	83.9	6.6	54.9	3L
881281 PAHA/SEL.72-330/DAWS		6/ OR855	SWW	61.2	69.1	0.37	85.2	6.4	52.2	2L
881282 BATUM		PI495013	HRW	60.3	69.5	0.35	86.6	6.4	55.8	3L
881283 HATTON		C117772	HRW	64.8	66.4	0.37	82.3	6.4	55.3	4L
881284 WANSER		C113844	HRW	62.9	68.5	0.31	87.6	7.7	55.9	4L
881285 ANDREW		WAG820	HRW	62.4	70.7	0.31	90.0	7.8	55.5	5L
881286 SURVIVOR		ID0332	HRW	61.7	68.8	0.32	87.5	7.4	55.7	4L
881287 PROBSTORFER EXTREME/TOB 66		6/ ORCR8313	HRW	63.0	69.0	0.34	86.7	7.3	54.7	7L
881288 VORO/MARIS NIMROD		6/ OR8522	HRW	61.0	67.0	0.36	83.5	7.0	55.1	5L
881289 LEWJAIN		C117909	SWW	61.1	68.2	0.35	85.9	6.3	54.3	3L
881290 A68203W-E-11-3-3/A682		5/ ID0297	HRW	62.6	71.1	0.34	88.8	6.4	56.8	4L
881291 FLORA		.	TRIT	60.0	65.2	0.43	76.5	6.2	51.7	1L

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 7% Protein

4/ Observed Values Corrected to 7% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

NURSCO 41

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LABNUM	VARIETY	IDNO	CLASS	CODI	CODIC 4/
881267 STEPHENS		CI17596	SWW	9.62	9.66
881268 HILL81		OR68007	SWW	9.42	9.46
881269 DUSTY		PI486429	SWW	9.50	9.49
881270 OVESON		PI512338	SWW	9.24	9.20
881271 MALCOLM		ORCW8113	SWW	9.42	9.40
881272 CREW		CI17951	CLUB	9.30	9.25
881273 TRES		CI17917	CLUB	9.70	9.66
881274 BASIN		.	SWW	9.43	9.38
881275 CASHUP		.	SWW	9.49	9.41
881276 TRES/TYEE/FARO/JACMAR		.	CLUB	9.45	9.41
881277 7C/CNO//CAL/3/YMH		ORCW8314	SWW	9.33	9.29
881278 VPM/MOS951//2*OR68007		WA7163	SWW	9.35	9.36
881279 VPM/MOS951//2*TYEE		WA7166	CLUB	9.36	9.31
881280 DAWS		CI17419	SWW	9.06	9.02
881281 PAHA/SEL.72-330/DAWS		OR855	SWW	9.30	9.23
881282 BATUM		PI495013	HRW		
881283 HATTON		CI17772	HRW		
881284 WANSE		CI13844	HRW		
881285 ANDREW		WA6820	HRW		
881286 SURVIVOR		ID0332	HRW		
881287 PROBSTORFER EXTREME/TOB 66		ORCR8313	HRW		
881288 VORO/MARIS NIMROD		OR8522	HRW		
881289 LEWJAIN		CI17909	SWW	9.59	9.51
881290 A68203W-E-11-3-3/A682		ID0297	HRW		
881291 FLORA		.	TRIT	8.69	8.60

NURSCO 41

LEXINGTON, OR

P.K. ZWER

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					3/			4/		
881267 STEPHENS		CI117596	SWW							
881268 HILL81		OR68007	SWW							
881269 DUSTY		PI486429	SWW							
881270 OVESON		PI512338	SWW							
881271 MALCOLM		ORCW8113	SWW							
881272 CREW		CI117951	CLUB							
881273 TRES		CI117917	CLUB							
881274 BASIN		.	SWW							
881275 CASHUP		.	SWW							
881276 TRES/TYEE/FARO/JACMAR		.	CLUB							
881277 7C/CNO//CAL/3/YMH		ORCW8314	SWW							
881278 VPM/MOS951//2*OR68007		WA7163	SWW							
881279 VPM/MOS951//2*TYEE		WA7166	CLUB							
881280 DAWS		CI117419	SWW							
881281 PANA/SEL.72-330/DAWS		OR855	SWW							
881282 BATUM		PI495013	HRW							
881283 HATTON		CI117772	HRW							
881284 WANSE		CI113844	HRW	57.3	56.6	3.6	685	642	9	
881285 ANDREW		WA6820	HRW							
881286 SURVIVOR		ID0332	HRW							
881287 PROBSTORFER EXTREME/T08 66		ORCR8313	HRW	55.7	55.4	6.3	635	616	9	= Wanser
881288 VORO/MARIS NIMROD		OR8522	HRW	55.8	55.8	4.6	635	635	9	= Wanser
881289 LEWJAIN		CI117909	SWW							
881290 A68203W-E-11-3-3/A682		ID0297	HRW	56.9	57.5	4.1	690	727	9	> Wanser
881291 FLORA		.	TRIT							P Milling

COMMENTS: The nursery of wheats was very low in protein. The cookie baking was above normal. All the experimental selections appear equal to the current varieties. Only a selected few of the HRW wheats were tested in baking due to the very low protein. There bread baking results may not be meaningful.

NURSCO 42

LAGRANDE, OR

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LABNUM	VARIETY	IDNO	CLASS	TWT	FYLD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	NTYPE
881292 STEPHENS		C117596	SWW	60.1	70.5	0.37	87.6	7.7	53.0	1L
881293 HILL81		OR68007	SWW	61.1	71.7	0.39	87.9	7.7	54.0	2L
881294 DUSTY		P1486429	SWW	61.2	70.9	0.36	88.1	7.8	52.8	3L
881295 OVESON		OR7996	SWW	59.9	69.1	0.38	84.6	6.9	55.2	6L
881296 MALCOLM		ORCW8113	SWW	61.3	70.7	0.38	86.6	8.4	53.2	2L
881297 CREW		C117951	CLUB	61.2	72.2	0.37	89.2	7.1	50.0	1L
881298 TRES		C117917	CLUB	61.5	74.3	0.49	84.5	6.7	45.8	2L
881299 BASIN		.	SWW	61.7	66.9	0.36	83.1	7.4	51.0	1L
881300 CASHUP		.	SWW	61.4	68.7	0.35	86.0	6.8	52.2	2L
881301 TRES/TYEE/FARO/JACMAR		6/ .	CLUB	61.6	72.4	0.33	91.9	8.5	49.5	1M
881302 7C/CNO//CAL/3/YMH		6/ ORCW8314	SWW	60.8	70.9	0.38	86.9	6.8	52.6	1L
881303 VPM/MOS951//2*OR68007		6/ WA7163	SWW	60.6	71.3	0.40	86.2	8.3	51.7	1M
881304 VPM/MOS951//2*TYEE		6/ WA7166	CLUB	60.9	72.1	0.34	90.9	6.8	54.7	3L
881305 DAWS		C117419	SWW	61.1	69.3	0.35	86.7	7.3	54.2	2L
881306 PAHA/SEL.72-330/DAWS		6/ OR855	SWW	62.3	71.4	0.35	89.4	7.4	51.1	2L
881307 BATUM		P1495013	HRW	60.4	70.1	0.36	86.8	7.9	58.1	2M
881308 HATTON		C117772	HRW	64.5	74.1	0.48	84.5	7.6	52.1	2M
881309 WANSER		C113844	HRW	63.2	71.4	0.36	88.1	9.0	56.0	3M
881310 ANDREW		WA6820	HRW	62.2	70.3	0.33	88.6	8.8	54.7	3M
881311 SURVIVOR		ID0332	HRW	61.5	68.5	0.46	79.9	10.9	53.7	3M
881312 PROBSTORFER EXTREME/T08 66		ORCR8313	SWW	62.2	67.5	0.51	74.4	6.7	53.3	1L
881313 LEWJAIN		C117909	SWW	61.0	70.4	0.48	80.0	7.6	54.5	2L
881314 FLORA		.	TRIT	50.3	65.5	0.55	69.5	6.5	51.6	1L
881315 A68203W-E-11-3-3/A682		ID0297	HRW	64.0	72.0	0.47	82.9	8.5	56.3	3M
881316 ND/P101//88/GLL		ORCW8424	SWW	61.4	70.7	0.54	76.6	7.7	53.9	3M

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 9% Protein

4/ Observed Values Corrected to 9% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

P.K. ZWER

NURSCO 42

LABNUM	VARIETY	IDNO	CLASS	COOI	COOIC 4/
881292 STEPHENS		C117596	SWW	9.14	9.10
881293 HILL81		OR68007	SWW	9.59	9.55
881294 DUSTY		PI486429	SWW	9.54	9.52
881295 OVESON		OR7996	SWW	9.16	9.04
881296 MALCOLM		ORCW8113	SWW	9.01	9.06
881297 CREW		C117951	CLUB	9.31	9.25
881298 TRES		C117917	CLUB	8.87	8.78
881299 BASIN		.	SWW	9.39	9.32
881300 CASHUP		.	SWW	9.33	9.19
881301 TRES/TYEE/FARO/JACMAR		.	CLUB	9.32	9.36
881302 7C/CNO//CAL/3/YMH		ORCW8314	SWW	9.23	9.09
881303 VPM/MOS951//2*OR68007		WA7163	SWW	9.16	9.20
881304 VPM/MOS951//2*TYEE		WA7166	CLUB	9.04	8.95
881305 DAWS		C117419	SWW	8.76	8.69
881306 PANA/SEL.72-330/DAWS		OR855	SWW	9.25	9.18
881307 BATUM		PI495013	HRW		
881308 HATTON		C117772	HRW		
881309 WANSER		C113844	HRW		
881310 ANDREW		WA6820	HRW		
881311 SURVIVOR		ID0332	HRW		
881312 PROBSTORFER EXTREME/TOB 66		ORCR8313	SWW	9.27	9.13
881313 LEWJAIN		C117909	SWW	9.29	9.24
881314 FLORA		.	TRIT	8.75	8.59
881315 A68203W-E-11-3-3/A682		ID0297	HRW		
881316 ND/P101//BB/GLL		ORCW8424	SWW	8.37	8.34

P.K. ZWER

LAGRANDE, OR

NURSCO 42

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC 3/	MTIME	LVOL	LVOLC 4/	BCRGR	RMKS
881292 STEPHENS		CI17596	SWW							
881293 HILL81		OR68007	SWW							
881294 DUSTY		PI486429	SWW							
881295 OVESON		OR7996	SWW							
881296 MALCOLM		ORCW8113	SWW							
881297 CREW		CI17951	CLUB							
881298 TRES		CI17917	CLUB							
881299 BASIN		.	SWW							
881300 CASHUP		.	SWW							
881301 TRES/TYEE/FARO/JACMAR		.	CLUB							
881302 7C/CNO//CAL/3/YMH		ORCW8314	SWW							
881303 VPM/MOS951//2*OR68007		WA7163	SWW							
881304 VPM/MOS951//2*TYEE		WA7166	CLUB							
881305 DAWS		CI17419	SWW							
881306 PAHA/SEL.72-330/DAWS		OR855	SWW							
881307 BATUM		PI495013	HRW							
881308 HATTON		CI17772	HRW							
881309 WANSEER		CI13844	HRW	57.7	56.7	2.4	750	688	9	
881310 ANDREW		WA6820	HRW							
881311 SURVIVOR		ID0332	HRW							
881312 PROBSTORFER EXTREME/TOB 66		ORCR8313	SWW	52.7	54.0	1.0	540	618	9	P-MTIME, Q-LVOL, FYELD
881313 LEWJAIN		CI17909	SWW							
881314 FLORA		.	TRIT							
881315 A68203W-E-11-3-3/A682		ID0297	HRW	57.5	57.0	2.6	640	609	9	P-LVOL
881316 ND/P101//BB/GLL		ORCW8424	SWW							P-MSCOR, CODI

COMMENTS: All of the SWW and Club varieties appear near their long term average normal. The new selections all look good and acceptable, except for ORCW8424. Because of the low protein content, most of the HRW were not baked. The two experimental HRW along with Wanser was baked but were found not equal to Wanser (See "Remarks").

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NURSCO 43

J. SULLIVAN

PAGE 1

TEST SAMPLE

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
881317 .			HRW	62.7	72.6	0.39	87.9	12.1	65.3	5H
LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	BCRGR	RMKS	
881317 .			HRW	67.1	67.0	4.0	965	959	2	

COMMENTS: This sample of HRW was submitted by Dr. J. Sullivan, Soft Wheat Specialist. It was taken from a problem cargo in Singapore. We find this wheat to be very typical and excellent in quality.

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LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	WPROT	FPROT	MABS
881318 KHARKOF		CI001442	HRW	61.4	66.8	0.40	74.6	10.4	10.0	59.9
881319 ELGIN		CI011755	CLUB	62.6	71.9	0.37	82.6	9.4	8.8	51.0
881320 MORO		CI013740	CLUB	60.5	72.1	0.38	83.3	8.9	7.6	49.2
881321 NUGAINES		CI013968	SWW	63.2	67.9	0.36	77.0	8.8	7.8	50.7
881322 STEPHENS		CI017596	SWW	60.6	71.2	0.38	80.3	9.2	7.8	50.5
881323 TRES		CI017917	CLUB	61.9	72.1	0.36	84.1	8.4	7.4	46.3
881324 VPM/MOS951//2*OR68007		WA7163	SWW	61.9	71.2	0.38	80.8	9.8	8.1	49.5
881325 VPM/MOS951//2*TYEE		6/WA7166	CLUB	60.8	71.3	0.35	82.7	8.8	7.2	50.7
881326 NORTENO/YMH//6720-13		ORCW8416	SWW	61.8	69.0	0.36	78.2	9.4	8.3	51.5
881327 TJB801-12795/SPN		ORCW8517	SWW	61.2	68.6	0.36	76.2	10.1	8.7	52.0
881328 NEELEY/SPN//SPN(A7911 28W AL)		ID0329	SWW	61.3	68.4	0.39	74.1	9.6	8.1	51.8
881329 NEELEY/SPN//SPN(A791128WB2)		ID0330	SWW	60.3	69.2	0.36	77.9	8.6	7.9	50.5
881330 HYSLOP/CERCO H-308		OR843	SWW	61.9	64.4	0.44	64.6	9.0	8.1	52.7
881331 HYSLOP/CERCO B-307		OR842	SWW	61.7	67.9	0.43	74.2	9.1	7.8	54.2
881332 HYSLOP/YAYLA//63-112-66-4/3		OR845	SWW	62.4	70.0	0.39	80.9	9.3	7.7	53.2
881333 DAVIS/SM4//MDM//SM11,...		ORFW301	SWW	60.3	71.9	0.38	82.1	8.6	7.7	52.7
881334 TJB259-83/3/CD/P101//DRC		6/ORCW8521	SWW	61.5	70.7	0.38	81.5	8.6	7.1	52.8
881335 YMH/MCD/2/T.SPELTA/3/...		5/ORF75336	SWW	60.7	70.8	0.38	80.3	9.2	7.5	53.2
881336 LUKE/VH67375//VPM/MOS		6/WA7529	SWW	60.0	72.1	0.39	82.5	8.5	7.3	54.2
881337 TRES COMPOSITE CROSS		5/WA7526	CLUB	61.0	72.6	0.40	84.2	8.4	7.4	48.3
881338 TRES MULTILINE 86		6/WA7527	CLUB	61.2	73.0	0.38	87.7	8.9	7.3	49.7
881339 PAHA//SEL72-330/DAWS		6/OR855	CLUB	63.0	71.8	0.38	84.4	9.3	7.9	51.2
881340 FW73830-002/3/MLD/2/RBS...		ORFW205B19	SWW	60.2	72.0	0.37	82.8	9.4	8.4	51.4
881341 CORVALLIS SEL		6/ORCW8632	SWW	60.6	72.9	0.37	84.0	9.1	7.7	51.4
881342 CORVALLIS SEL		6/ORCW8633	SWW	62.4	72.9	0.42	82.2	8.8	7.4	49.9
881343 CORVALLIS SEL		6/ORCW8635	SWW	61.2	71.3	0.36	82.7	8.6	7.2	51.6
881344 CORVALLIS SEL		ORCW8637	SWW	61.2	71.8	0.40	81.1	9.5	7.6	53.4
881345 CORVALLIS SEL		6/ORCW8724	SWW	60.3	71.8	0.37	83.0	8.8	7.5	52.9
881346 CORVALLIS SEL		6/OR830801	SWW	59.9	70.8	0.38	79.8	9.0	7.6	52.8
881347 VPM/MS421//VH66354/NA5827...		6/NA7621	CLUB	61.8	72.2	0.40	82.0	9.0	7.5	50.3

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LABNUM	VARIETY	IDNO	CLASS	MABSC	MTYPE	COOI	CODIC	CAVOL	SCSOR	WTIN
881318	KHARKOF	C1001442	HRW	57.9	4M	8.00	8.16	1140	62.0	315
881319	ELGIN	C1011755	CLUB	50.2	2L	9.15	9.21	1130	69.0	342
881320	MORO	C1013740	CLUB	49.6	2L	9.27	9.25	1380	83.0	339
881321	NUGAINES	C1013968	SWW	50.9	3L	9.02	9.00	1265	74.0	312
881322	STEPHENS	C1017596	SWW	50.7	2L	8.77	8.75	1275	74.0	322
881323	TRES	C1017917	CLUB	46.9	2L	9.01	8.97	1345	80.0	337
881324	VPM/MOS951//2*OR68007	WA7163	SWW	49.4	2L	8.70	8.71	1250	72.0	335
881325	VPM/MOS951//2*TYEE	WA7166	CLUB	51.5	3L	8.74	8.68	1295	78.0	323
881326	NORTENO/YMH//6720-13	ORCW8416	SWW	51.2	3L	8.87	8.91	1280	77.0	315
881327	TJB801-12795/SPN	ORCW8517	SWW	51.3	3L	8.61	8.69	1225	84.0	328
881328	NEELEY/SPN//SPN(A7911 28W AL)	ID0329	SWW	51.7	3L	8.29	8.30	1155	57.0	316
881329	NEELEY/SPN//SPN(A791128WB2)	ID0330	SWW	50.6	2L	8.73	8.71	1255	68.0	328
881330	HYSLOP/CERCO H-308	OR843	SWW	52.6	3L	8.05	8.06	1110	62.0	310
881331	HYSLOP/CERCO B-307	OR842	SWW	54.4	4L	8.11	8.09	1170	66.0	311
881332	HYSLOP/YAYLA//63-112-66-4/3	OR845	SWW	53.5	3L	8.43	8.39	1220	70.0	328
881333	DAWS/SM4//MDM//SM11,...	ORFW301	SWW	53.0	3L	8.99	8.95	1225	73.0	326
881334	TJB259-83/3/CD/P101//DRC	ORCW8521	SWW	53.7	3L	8.79	8.69	1260	75.0	325
881335	YMH/MCD/2/T.SPELTA/3/...	ORF75336	SWW	53.7	2L	8.79	8.73	1385	81.0	351
881336	LUKE/VH67375//VPM/MOS	WA7529	SWW	54.9	3L	9.04	8.96	1400	83.0	314
881337	TRES COMPOSITE CROSS	WA7526	CLUB	48.9	2L	9.01	8.97	1365	78.0	344
881338	TRES MULTILINE 86	WA7527	CLUB	50.4	2L	8.87	8.83	1390	79.0	337
881339	PAHA//SEL72-330/DAWS	OR855	CLUB	51.3	3L	8.80	8.79	1335	76.0	343
881340	FW73830-002/3/MLD/2/RBS...	ORFW205819	SWW	51.0	2L	8.95	8.99	1355	69.0	328
881341	CORVALLIS SEL	ORCW8632	SWW	51.7	2L	8.85	8.82	1350	78.0	325
881342	CORVALLIS SEL	ORCW8633	SWW	50.5	2L	9.12	9.06	1310	77.0	319
881343	CORVALLIS SEL	ORCW8635	SWW	52.4	2L	8.73	8.64	1310	78.0	324
881344	CORVALLIS SEL	ORCW8637	SWW	53.8	3L	8.69	8.64	1300	72.0	322
881345	CORVALLIS SEL	ORCW8724	SWW	53.4	4L	8.89	8.83	1340	77.0	332
881346	CORVALLIS SEL	OR830801	SWW	53.2	3L	8.77	8.73	1335	79.0	318
881347	VPM/MS421//VH66354/WA5827...	WA7621	CLUB	50.8	2L	8.77	8.74	1335	78.0	337

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LABNUM	VARIETY	IDNO	CLASS	NYELD	NOSCOR	VISC	VISCC	RMKS
881318	KHARKOF	C1001442	HRW	16	70	145	88	
881319	ELGIN	C1011755	CLUB	18	76	72	57	
881320	MORO	C1013740	CLUB	17	75	60	69	
881321	NUGAINES	C1013968	SWW	16	74	66	71	
881322	STEPHENS	C1017596	SWW	17	75	51	54	
881323	TRES	C1017917	CLUB	17	75	40	49	
881324	VPM/MOS951//2*OR68007	WA7163	SWW	17	74	70	68	Q-SCSOR
881325	VPM/MOS951//2*TYEE	WA7166	CLUB	17	75	80	108	
881326	NORTENO/YMH//6720-13	ORCW8416	SWW	16	74	76	69	Q-FYELD
881327	TJB801-12795/SPN	ORCW8517	SWW	17	72	89	73	Q-FYELD, NOSCOR
881328	NEELEY/SPN//SPN(A7911 28W AL)	ID0329	SWW	16	73	65	63	Q-FYELD, P-CODI, SCSOR, NOSCOR
881329	NEELEY/SPN//SPN(A791128WB2)	ID0330	SWW	17	74	56	58	Q-SCSOR, NOSCOR
881330	HYSLOP/CERCO H-308	OR843	SWW	16	73	63	61	P-FYELD, CODI, SCSOR, NOSCOR
881331	HYSLOP/CERCO B-307	OR842	SWW	16	73	69	73	P-FYELD, CODI, SCSOR, NOSCOR
881332	HYSLOP/YAYLA//63-112-66-4/3	OR845	SWW	17	75	67	75	P-CODI, SCSOR
881333	DAWS/SM4//MDM//SM11,...	ORFW301	SWW	17	74	54	60	Q-SCSOR
881334	TJB259-83/3/CD/P101//DRC	ORCW8521	SWW	17	76	57	81	
881335	YMH/MCD/2/T-SPELTA/3/...	ORF75336	SWW	18	75	52	62	
881336	LUKE/VH67375//VPM/MOS	WA7529	SWW	16	73	52	67	Q-NOSCOR
881337	TRES COMPOSITE CROSS	WA7526	CLUB	18	75	43	54	
881338	TRES MULTILINE 86	WA7527	CLUB	17	73	49	64	Q-NOSCOR
881339	PAHA//SEL72-330/DAWS	OR855	CLUB	18	75	60	62	
881340	FW73830-002/3/MLD/2/RBS...	ORFW205B19	SWW	17	73	64	57	P-SCSOR, Q-NOSCOR
881341	CORVALLIS SEL	ORCW8632	SWW	17	74	57	63	
881342	CORVALLIS SEL	ORCW8633	SWW	16	70	52	64	Q-NOSCOR
881343	CORVALLIS SEL	ORCW8635	SWW	17	75	46	62	
881344	CORVALLIS SEL	ORCW8637	SWW	17	72	57	65	Q-SCSOR, NOSCOR
881345	CORVALLIS SEL	ORCW8724	SWW	17	73	68	81	Q-NOSCOR
881346	CORVALLIS SEL	OR830801	SWW	16	74	78	90	
881347	VPM/MS421//VH66354/WA5827...	WA7621	CLUB	17	75	49	58	

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LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	WPROT	FPROT	MABS
881348	TYEE/ROAZON/TRES	6/WA7622	CLUB	60.5	73.0	0.37	86.2	9.5	7.9	49.9
881349	SPN/ROAZON/SEL 101	WA7623	SWW	60.0	71.1	0.39	80.7	11.3	9.2	54.2
881350	VPM/MS951/PECK/SPN/DAWS	WA7624	SWW	59.2	73.1	0.37	86.2	9.3	8.0	53.4
881351	WA7163SIB	6/WA7625	SWW	61.3	72.6	0.39	84.2	9.7	7.8	52.9
881352	WA096910,MARIS HUNTSMAN/...	6/WA7627	SWW	61.7	71.1	0.36	83.2	8.3	7.0	51.3
881353	VD086150,WA6814/WA6581	6/WA7628	CLUB	60.9	73.7	0.38	86.0	8.5	7.5	51.3

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LABNUM	VARIETY	IDNO	CLASS	MABSC	MTYPE	CODI	CODIC	CAVOL	SCSOR	WTIN
881348	TYEE/ROAZON/TRES	WA7622	CLUB	50.0	2L	8.86	8.86	1310	72.0	336
881349	SPN/ROAZON/SEL 101	WA7623	SW	53.0	5m	8.62	8.76	1290	73.0	339
881350	VPM/MS951/PECK/SPN/DAWS	WA7624	SW	53.4	3L	8.57	8.57	1295	76.0	328
881351	WA7163SIB	WA7625	SW	53.1	2L	8.80	8.78	1290	74.0	333
881352	WA096910, MARIS HUNTSMAN/...	WA7627	SW	52.3	2L	8.99	8.88	1315	78.0	313
881353	VD086150, WA6814/WA6581	WA7628	CLUB	51.8	2L	8.98	8.94	1245	72.0	319

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LABNUM	VARIETY	IDNO	CLASS	NYELD	NOSCOR	VISC	VISCC	RHKS
881348	TYEE/ROAZON/TRES	WA7622	CLUB	17	75	69	71	Q-SCSOR
881349	SPN/ROAZON/SEL 101	WA7623	SHW	17	69	93	67	Q-SCSOR, P-NOSCOR
881350	VPM/MS951/PECK/SPN/DAWS	WA7624	SHW	17	74	73	73	Q-CODI
881351	WA7163SIB	WA7625	SHW	17	73	70	75	Q-NOSCOR
881352	WA096910,MARIS HUNTSMAN/...	WA7627	SHW	16	73	51	75	
881353	VD086150,WA6814/WA6581	WA7628	CLUB	16	74	55	66	Q-SCSOR

COMMENTS: The samples analyzed were composited with equal amounts of grain from nurseries at Hermiston and Moro, OR and Harrington, WA. Other locations submitted were too high (12-13%) in protein. Several of these selections appear equal to the average of the check varieties in overall quality and are footnoted as promising. Other selections have serious deficiencies as noted in "Remarks".

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LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
881354 KHARKOF		C1001442	HRW	62.3	67.6	0.38	76.9	13.1	63.8	2H
881355 WANSER		C1013844	HRW	62.7	71.3	0.37	84.5	12.5	63.8	3H
881356 PROBSTORFER-EXTREM/TOB66		6/ORCR8313	HRW	62.8	70.4	0.38	82.1	11.7	63.6	5H
881357 FGR/3/11-60-157/MC/MRN/4...		ID0331	HRW	62.4	69.5	0.35	82.1	13.4	62.7	2H
881358 SURVIVOR		ID0332	HRW	61.6	70.7	0.39	81.4	12.8	63.7	3H
881359 A75211W-81-1-3T BUCKSKIN/...		ID0333	HRW	62.6	68.1	0.38	79.1	13.3	64.1	2H
881360 TK/BURT/4/SM6/4/21F/...		6/ID0335	HRW	62.7	70.9	0.38	81.7	12.9	63.5	3H
881361 ATL50/4/R/R//2*CNN/...		ID0336	HRW	62.8	70.4	0.37	82.8	12.1	63.6	2H
881362 PMF//CNO S/GLL		6/ORCR8414	HRW	62.7	69.8	0.40	80.5	11.8	63.9	4H
881363 UT75079/CREST56/...		MT79125	HRW	61.1	67.8	0.33	82.2	12.3	64.0	4H
881364 HATTON SIB//SHORT WHEAT/SCOUT		6/WA7522	HRW	63.0	72.9	0.37	87.3	11.3	64.1	2H
881365 LINDSEL FRC/SRG		6/WA7523	HRW	61.9	70.4	0.36	83.5	11.5	65.0	4H
881366 PMF//CNO S/GLL		ORCR8601	HRW	62.7	72.6	0.41	83.1	11.5	63.3	4H
881367 MANNING/BEZOSTAJA-1		UT156751	HRW	64.1	72.0	0.36	85.7	11.6	63.3	4H
881368 " "		6/UT156775	HRW	63.7	70.6	0.39	81.6	10.6	63.1	6M
881369 MANNING/SADOVAI-		UT156516	HRW	63.0	67.3	0.36	78.9	10.6	62.5	4M
881370 ABERDEEN SEL		6/ID0351	HRW	62.9	72.8	0.39	85.3	13.6	62.5	2H
881371 ABERDEEN SEL		6/ID0352	HRW	63.3	69.9	0.39	80.8	12.7	63.4	4H
881372 ABERDEEN SEL		ID0353	HRW	62.5	71.5	0.38	84.1	11.9	64.5	4H
881373 ABERDEEN SEL		ID0354	HRW	62.9	71.0	0.39	83.4	12.6	63.2	2H
881374 N7701501//V72044/CERCON8506401		6/WA7619	HRW	62.7	69.9	0.38	82.0	12.8	63.9	5H
881375 N7701501//V72044/CERCON8506402		5/WA7620	HRW	62.5	70.0	0.36	82.9	12.3	64.3	5H
881376 LCO/FRD//NE69559/WNR		5/MT8039	HRW	61.1	71.8	0.38	84.6	12.4	66.0	5H
881377 HANSEL/USSR 2109-36		6/UT157140	HRW	61.6	73.1	0.38	86.6	13.0	65.6	3H
881378 CORVALLIS SEL		ORCR8602	HRW	60.9	66.1	0.41	71.3	12.0	61.9	4H
881379 CORVALLIS SEL		ORCR8603	HRW	61.0	67.7	0.42	74.3	12.3	62.6	4M
881380 CORVALLIS SEL		ORCR8608	HRW	63.1	69.3	0.39	79.3	12.1	62.3	2H
881381 CORVALLIS SEL		OR830282	HRW	61.2	69.9	0.48	74.0	12.5	61.2	1H
881382 CORVALLIS SEL		OR832306	HRW	60.5	71.2	0.41	81.7	11.2	61.6	2H
881383 HARD WHITE 1987ML		WA7626	HW	63.0	71.8	0.43	80.1	12.0	63.7	3H

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LABNUM	VARIETY	IDNO	CLASS	WPROT	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR
881354 KHARKOF		C1001442	HRW	15.0	65.6	64.5	2.0	1045	977	3
881355 WANSER		C1013844	HRW	13.2	65.0	64.5	3.3	1040	1009	2
881356 PROBSTORFER-EXTREM/T0866		ORCR8313	HRW	12.6	65.0	65.3	3.7	980	999	2
881357 FGR/3/11-60-157/MC/MRN/4...		ID0331	HRW	14.6	64.8	63.4	2.0	1000	913	5
881358 SURVIVOR		ID0332	HRW	14.0	64.7	63.9	2.3	955	905	2
881359 A75211W-81-1-3T BUCKSKIN/...		ID0333	HRW	14.4	65.6	64.3	2.0	945	864	3
881360 TK/BURT/4/SM6/4/21F/...		ID0335	HRW	14.3	64.6	63.7	2.6	990	934	2
881361 ATL50/4/R/R/1/2*CNN/...		ID0336	HRW	13.4	63.9	63.8	2.3	950	944	2
881362 PMF//CNO S/GLL		ORCR8414	HRW	13.1	63.9	64.1	3.0	960	972	2
881363 UT755079/CREST56/...		MT79125	HRW	14.4	64.5	64.2	3.0	975	956	3
881364 HATTON SIB//SHORT WHEAT/SCOUT		WA7522	HRW	11.9	66.6	67.3	2.5	995	1038	3
881365 LINDSEL FRC/SRG		WA7523	HRW	12.5	64.7	65.2	3.1	950	981	2
881366 PMF//CNO S/GLL		ORCR8601	HRW	12.8	63.5	64.0	3.2	920	951	4
881367 MANNING/BEZOSTAJA-1		UT156751	HRW	12.0	63.6	64.0	3.6	945	970	4
881368 " "		UT156775	HRW	11.4	62.4	63.8	3.3	905	992	2
881369 MANNING/SADOVAI-		UT156516	HRW	11.5	61.8	63.2	2.6	845	932	6
881370 ABERDEEN SEL		ID0351	HRW	14.5	64.3	62.7	2.3	1050	951	2
881371 ABERDEEN SEL		ID0352	HRW	13.7	64.8	64.1	3.0	1045	1002	1
881372 ABERDEEN SEL		ID0353	HRW	13.3	65.1	65.2	3.1	965	971	4
881373 ABERDEEN SEL		ID0354	HRW	14.1	64.5	63.9	2.2	1010	973	4
881374 N7701501//V72044/CERCON8506401		WA7619	HRW	13.5	65.4	64.6	3.4	1070	1020	2
881375 N7701501//V72044/CERCON8506402		WA7620	HRW	13.7	65.3	65.0	3.7	1100	1081	2
881376 LCO/FRD//NE69559/WNR		MT8039	HRW	13.8	67.1	66.7	3.0	1065	1040	2
881377 HANSEL/USSR 2109-36		UT157140	HRW	13.9	67.3	66.3	3.2	1065	1003	3
881378 CORVALLIS SEL		ORCR8602	HRW	13.0	63.1	63.1	3.1	1005	1005	3
881379 CORVALLIS SEL		ORCR8603	HRW	13.2	63.6	63.3	3.0	930	911	5
881380 CORVALLIS SEL		ORCR8608	HRW	13.4	63.1	63.0	2.2	930	924	4
881381 CORVALLIS SEL		OR830282	HRW	13.7	60.9	60.4	1.3	900	869	9
881382 CORVALLIS SEL		OR832306	HRW	12.3	60.0	60.8	1.8	815	865	8
881383 HARD WHITE 1987ML		WA7626	HRW	13.0	63.4	63.4	2.5	980	980	6

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LABNUM	VARIETY	IDNO	CLASS	FABS	FABSC	FPEAK	FSTAB	RMKS
881354	KHARKOF	C1001442	HRW	63.6	62.5	5.9	10.6	
881355	WANSER	C1013844	HRW	62.0	61.5	7.5	10.7	
881356	PROBSTORFER-EXTREM/T0866	ORCR8313	HRW	61.7	62.0	9.5	16.7	Q-FYELD
881357	FGR/3/11-60-157/MC/MRN/4...	ID0331	HRW	64.9	63.5	4.7	5.4	P-MTIME, Q-LVOL, BCRGR
881358	SURVIVOR	ID0332	HRW	66.0	65.2	6.2	7.2	P-MTIME, LVOL
881359	A75211W-81-1-3T BUCKSKIN/...	ID0333	HRW	66.4	65.1	4.5	5.1	P-MTIME, LVOL, FYELD
881360	TK/BURT/4/SM6/4/2IF/...	ID0335	HRW	66.9	66.0	7.7	10.0	
881361	ATL50/4/R/R//2*CNN/...	ID0336	HRW	64.7	64.6	4.4	5.1	P-MTIME, FSTAB
881362	PMF//CNO S/GLL	ORCR8414	HRW	65.2	65.4	5.5	10.2	Q-FYELD
881363	UT755079/CREST56//...	MT79125	HRW	65.9	65.6	8.0	12.8	P-FYELD, Q-BCRGR
881364	HATTON SIB//SHORT WHEAT/SCOUT	WA7522	HRW	64.5	65.2	5.5	11.8	Q-MTIME
881365	LINDSEL FRC/SRG	WA7523	HRW	65.0	65.5	6.3	9.7	Q-FYELD
881366	PMF//CNO S/GLL	ORCR8601	HRW	63.3	63.8	6.2	6.4	Q-BCRGR
881367	MANNING/BEZOSTAJA-1	UT156751	HRW	61.9	62.3	7.5	11.8	Q-BCRGR
881368	" "	UT156775	HRW	61.2	62.6	7.9	13.6	Q-FYELD
881369	MANNING/SADOVAI-	UT156516	HRW	64.1	65.5	4.8	6.1	P-FYELD, BCRGR
881370	ABERDEEN SEL	ID0351	HRW	66.1	64.5	4.5	5.0	Q-MTIME, FSTAB
881371	ABERDEEN SEL	ID0352	HRW	67.6	66.9	7.8	10.6	Q-FYELD
881372	ABERDEEN SEL	ID0353	HRW	66.2	66.3	6.6	11.9	Q-BCRGR
881373	ABERDEEN SEL	ID0354	HRW	65.8	65.2	4.0	5.3	Q-MTIME, BCRGR
881374	N7701501//V72044/CERCON8506401	WA7619	HRW	64.0	63.2	8.7	17.5	Q-FYELD
881375	N7701501//V72044/CERCON8506402	WA7620	HRW	62.5	62.2	11.5	15.0	Q-FYELD
881376	LCO/FRD//NE69559/WNR	MT8039	HRW	65.2	64.8	7.6	14.2	
881377	HANSEL/USSR 2109-36	UT157140	HRW	65.8	64.8	7.2	10.1	
881378	CORVALLIS SEL	ORCR8602	HRW	60.6	60.6	9.5	21.6	P-FYELD
881379	CORVALLIS SEL	ORCR8603	HRW	63.4	63.1	6.3	4.5	P-FYELD, Q-BCRGR
881380	CORVALLIS SEL	ORCR8608	HRW	64.2	64.1	5.5	9.0	P-MSCOR, Q-BCRGR
881381	CORVALLIS SEL	OR830282	HRW	62.5	62.0	2.8	2.4	P-MSCOR, MTIME, LVOL, BCRGR
881382	CORVALLIS SEL	OR832306	HRW	60.3	61.1	3.3	3.0	P-MTIME, LVOL, BCRGR
881383	HARD WHITE 1987ML	WA7626	HRW	60.7	60.7	5.5	7.8	Q-MTIME, BCRGR

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LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
881384	VORO/MARIS NIMROD 85B-839	OR8522	HRW	60.7	69.4	0.41	78.7	11.8	61.6	3H
881385	ABERDEEN SEL	ID0323	HRW	62.4	70.9	0.40	81.0	12.2	60.6	3H
881386	ABERDEEN SEL	ID0326	HRW	62.1	70.3	0.36	83.3	11.0	61.3	2H
881387	ABERDEEN SEL	ID0356	HRW	61.9	70.1	0.41	79.9	12.6	61.8	4H
881388	ABERDEEN SEL	ID0360	HRW	62.6	70.5	0.28	87.5	11.4	61.2	4M
881389	ABERDEEN SEL	6/ ID0364	HRW	62.0	71.3	0.34	85.1	13.0	63.0	4H
881390	ABERDEEN SEL	ID0380	HRW	63.0	70.4	0.34	84.3	12.5	61.2	4H
881391	ABERDEEN SEL	ID0381	HRW	62.2	69.5	0.28	86.3	12.5	65.2	2H

USDA, SEA AR
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WESTERN REGIONAL HARD RED WINTER

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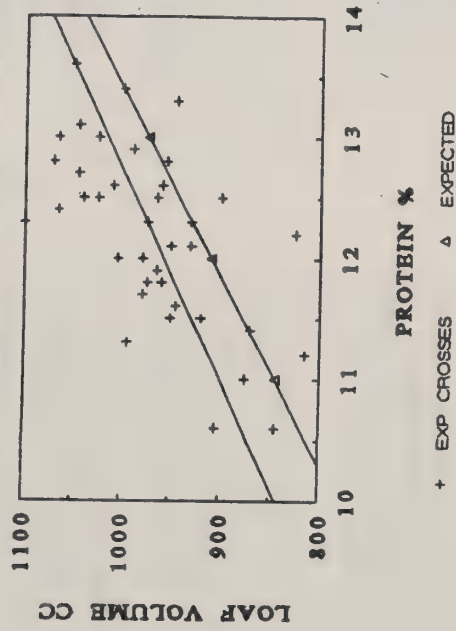
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LABNUM	VARIETY	IDNO	CLASS	WPROT	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR
881384	VORO/MARIS NIMROD 85B-839	OR8522	HRW	13.0	62.1	62.3	2.5	975	987	8
881385	ABERDEEN SEL	ID0323	HRW	13.6	61.5	61.3	3.4	825	813	3
881386	ABERDEEN SEL	ID0326	HRW	12.2	60.5	61.5	2.3	875	937	6
881387	ABERDEEN SEL	ID0356	HRW	14.0	63.1	62.5	3.4	960	923	3
881388	ABERDEEN SEL	ID0360	HRW	12.7	61.3	61.9	3.4	870	907	6
881389	ABERDEEN SEL	ID0364	HRW	14.4	64.7	63.7	3.0	1025	963	3
881390	ABERDEEN SEL	ID0380	HRW	13.5	62.4	61.9	3.6	965	934	4
881391	ABERDEEN SEL	ID0381	HRW	13.7	65.4	64.9	2.3	1025	994	4

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LABNUM	VARIETY	IDNO	CLASS	FABS	FABSC	FPEAK	FSTAB	RMKS
881384	VORO/MARIS NIMROD 85B-839	OR8522	HRW	61.4	61.6	4.8	7.0	P-MSCOR,BCRGR
881385	ABERDEEN SEL	ID0323	HRW	64.2	64.0	7.0	9.1	P-LVOL,Q-BCRGR
881386	ABERDEEN SEL	ID0326	HRW	60.0	61.0	3.5	7.2	P-MTIME,BCRGR
881387	ABERDEEN SEL	ID0356	HRW	63.2	62.6	8.0	15.5	P-MSCOR
881388	ABERDEEN SEL	ID0360	HRW	61.5	62.1	7.0	12.0	Q-LVOL,BCRGR
881389	ABERDEEN SEL	ID0364	HRW	64.3	63.3	7.0	10.5	
881390	ABERDEEN SEL	ID0380	HRW	63.2	62.7	12.0	15.0	Q-BCRGR
881391	ABERDEEN SEL	ID0381	HRW	66.2	65.7	5.6	11.0	P-MTIME,BCRGR

LOAF VOLUME VS PROTEIN
WESTERN REGIONAL HARD RED WINTER



COMMENTS: Samples analyzed were made from composites of equal amounts of grain from nurseries at Hermiston and Pendleton, OR, Lind (dry) and Lind (Irr), WA, and Aberdeen, ID. Protein levels were good. Bread baking was above average expected levels for most of the material including the "checks" (See accompanied plot). There is a wide range of baking quality among these selections. Several should not have been advanced to Regional testing because of their distinct poor quality. See "Remarks" for these major deficiencies.

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LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	WPROT	FPROT	MABS
881392 MCKAY		C1017903	HRS	61.8	72.6	0.42	82.7	12.4	11.4	60.9
881393 FEDERATION		C1004734	SWS	59.3	70.0	0.44	76.1	12.5	10.5	54.4
881394 OWENS		C1017904	SWS	62.1	68.3	0.40	76.1	11.6	9.9	53.4
881395 PENEHAWA		P1495916	SWS	61.2	67.4	0.45	71.6	11.7	10.3	54.9
881396 K73579/BORAH (Spillman)		WA7075	HRS	61.0	71.6	0.43	81.2	12.9	12.0	62.6
881397 K78504/K79129-33/...		6/WA7183	SWS	61.1	70.6	0.44	77.7	11.6	10.2	54.5
881398 TANAGER SIB		OR8508	HRS	63.2	68.6	0.43	76.9	13.2	11.7	61.1
881399 NHS7664/NDM0004		6/WA7328	HRS	59.8	71.8	0.43	83.2	12.9	12.4	61.6
881400 K7205078/C114193		WA7326	HRS	61.0	71.0	0.43	82.1	13.0	12.2	65.4
881401 K78504/K74129-33/...		WA7176	SWS	60.1	69.5	0.48	73.1	11.8	10.2	54.3
881402 K78504/K74129-33/...		WA7492	SWS	59.7	66.8	0.45	70.5	12.2	10.4	54.8
881403 COWBIRD S./2*STERLING		6/ID0312	SWS	62.8	71.0	0.41	79.4	11.4	9.8	54.0
881404 VEERY.S CM33027F		ORS8509	HRS	62.1	67.8	0.46	74.7	12.6	11.8	58.6
881405 MINIVET S CM37705K		6/ORS8510	HRS	62.5	69.3	0.43	78.3	12.8	11.7	62.4
881406 KVZ/3/TOB/CFN/...		ORS8511	HRS	61.8	69.1	0.43	78.2	12.5	11.5	59.6
881407 TITMOVE S CM30136-3		6/ORS8422	HRS	62.6	67.7	0.41	78.0	13.0	11.9	63.6
881408 BOW S CM33023-F		ORS8512	HRS	64.0	68.2	0.41	77.1	12.3	11.4	59.5
881409 K7400315/PTM70S.47		6/WA7496	SWS	58.7	71.1	0.49	74.3	12.0	10.8	54.4
881410 COWBIRD"S"/5/MC/...		6/ID0341	HRS	61.0	70.1	0.46	75.6	14.0	12.9	63.6
881411 COWBIRD"S"/STERLING		ID0365	HRS	61.7	71.9	0.47	79.9	12.9	11.6	62.4
881412 BRH/3/11-60-101/...		6/ID0366	HRS	62.4	70.7	0.39	83.5	14.0	12.0	66.9
881413 2*SLG//COWBIRD"S"/SLG		6/ID0348	SWS	62.1	71.4	0.41	80.4	11.0	9.5	54.3
881414 OWENS/FIELDWIN		ID0372	SWS	62.9	70.9	0.39	80.9	11.3	9.3	53.7
881415 ID0172/FIELDWIN SEL8		5/ID0373	SWS	62.4	71.1	0.39	80.6	11.6	9.7	54.2
881416 FREMONT/ID0165		UT0526	HRS	63.2	70.5	0.43	80.8	13.2	12.3	60.5
881417 WYNNE/CA0353		6/UT0743	HRS	62.3	71.5	0.43	83.7	12.9	11.7	62.2
881418 WYNNE/CA0353		6/UT0817	HRS	62.2	71.9	0.42	84.6	12.1	11.2	61.7
881419 WYNNE/CA0353		6/UT0884	HRS	62.0	71.4	0.43	82.2	12.0	11.1	60.9
881420 UT74525-910/CA0353		UT1309	HRS	61.2	72.1	0.43	83.1	13.0	11.8	61.9
881421 UT74525-910/CA0353		UT1437	HRS	61.6	71.4	0.42	83.2	12.9	12.0	62.0

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

WESTERN REGIONAL SPRING

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LABNUM	VARIETY	IDNO	CLASS	MABSC	MTYPE	FABS	FABSC	FPEAK	FSTAB	VISC
881392 MCKAY		C1017903	HRS	60.5	4H	59.4	59.0	5.4	11.6	
881393 FEDERATION		C1004734	SWS	54.9	2M					117
881394 OWENS		C1017904	SWS	54.5	2M					112
881395 PENEWAWA		P1495916	SWS	55.6	3M					130
881396 K73579/BORAH		WA7075	HRS	61.6	2H	63.5	62.5	4.8	5.0	
881397 K78504/K79129-33/...		WA7183	SWS	55.3	2M					112
881398 TANAGER S18		OR8508	HRS	60.4	2H	64.6	63.9	4.8	6.0	
881399 NHS7664/NDM0004		WA7328	HRS	60.2	4M	62.3	60.9	5.3	4.8	
881400 K7205078/C114193		WA7326	HRS	64.2	6H	59.2	58.0	14.5	19.8	
881401 K78504/K74129-33/...		WA7176	SWS	55.1	2M					72
881402 K78504/K74129-33/...		WA7492	SWS	55.4	2M					101
881403 COWBIRD S./2*STERLING		ID0312	SWS	55.2	2M					108
881404 VEERY.S CM33027F		OR8509	HRS	57.8	2H	63.5	62.7	5.2	3.7	
881405 MINIVET S CM37705K		OR8510	HRS	61.7	4H	63.4	62.7	7.4	11.5	
881406 KVZ/3/TOB/CFN/...		OR8511	HRS	59.1	4M	64.9	64.4	5.2	4.0	
881407 TITMOVE S CM30136-3		OR8422	HRS	62.7	3H	64.7	63.8	6.7	8.1	
881408 BOW S CM33023-F		OR8512	HRS	59.1	3H	65.2	64.8	5.7	5.0	
881409 K7400315/PTM70S.47		WA7496	SWS	54.6	2M					104
881410 COWBIRD"S"/5/MC/...		ID0341	HRS	61.7	4H	61.6	59.7	8.5	10.1	
881411 COWBIRD"S"/STERLING		ID0365	HRS	61.8	4H	61.2	60.6	9.7	13.8	
881412 BRH/3/11-60-101/...		ID0366	HRS	65.9	5H	63.2	62.2	10.0	19.0	
881413 2*SLG//COWBIRD"S"/SLG		ID0348	SWS	55.8	2M					103
881414 OWENS/FIELDWIN		ID0372	SWS	55.4	2M					110
881415 ID0172/FIELDWIN SEL8		ID0373	SWS	55.5	2M					124
881416 FREMONT/ID0165		UT0526	HRS	59.2	4H	62.4	61.1	8.2	13.1	
881417 WYNNE/CA0353		UT0743	HRS	61.5	3H	62.2	61.5	6.0	8.6	
881418 WYNNE/CA0353		UT0817	HRS	61.5	3H	59.0	58.8	5.5	11.0	
881419 WYNNE/CA0353		UT0884	HRS	60.8	3H	57.7	57.6	4.9	12.4	
881420 UT74525-910/CA0353		UT1309	HRS	61.1	2H	61.9	61.1	4.6	5.7	
881421 UT74525-910/CA0353		UT1437	HRS	61.0	2H	62.0	61.0	4.8	6.1	

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LABNUM	VARIETY	IDNO	CLASS	VISCC	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR
881392 MCKAY		CI017903	HRS		62.6	62.2	4.0	1025	1000	2
881393 FEDERATION		CI004734	SWS	127						
881394 OWENS		CI017904	SWS	137						
881395 PENEHAWA		PI495916	SWS	147						
881396 K73579/BORAH		WA7075	HRS		63.3	62.3	2.4	990	928	4
881397 K78504/K79129-33/...		WA7183	SWS	129						
881398 TANAGER STB		OR8508	HRS		61.8	61.1	2.4	995	952	6
881399 NHS7664/NDM0004		WA7328	HRS		62.3	60.9	2.8	975	888	3
881400 K7205078/C114193		WA7326	HRS		67.1	65.9	6.3	1080	1006	6
881401 K78504/K74129-33/...		WA7176	SWS	83						
881402 K78504/K74129-33/...		WA7492	SWS	112						
881403 COMBIRD S./2*STERLING		ID0312	SWS	135						
881404 VEERY.S CM33027F		ORS8509	HRS		59.8	59.0	2.5	850	800	7
881405 MINIVET S CM37705K		ORS8510	HRS		63.6	62.9	3.5	955	912	3
881406 KVZ/3/TOB/CFN/...		ORS8511	HRS		60.8	60.3	2.3	790	759	7
881407 TITMOVE S CM30136-3		ORS8422	HRS		64.8	63.9	2.8	960	904	3
881408 BOW S CM33023-F		ORS8512	HRS		60.7	60.3	2.8	850	825	6
881409 K7400315/PTM70S.47		WA7496	SWS	108						
881410 COMBIRD"S"/5/MC/...		ID0341	HRS		64.8	62.9	3.7	1075	957	2
881411 COMBIRD"S"/STERLING		ID0365	HRS		64.1	63.5	3.6	880	843	4
881412 BRH/3/11-60-101/...		ID0366	HRS		67.6	66.6	4.1	930	868	4
881413 2*SLG//COMBIRD"S"/SLG		ID0348	SWS	137						
881414 OWENS/FIELDWIN		ID0372	SWS	153						
881415 ID0172/FIELDWIN SEL8		ID0373	SWS	158						
881416 FREMONT/ID0165		UT0526	HRS		62.2	60.9	3.9	850	769	4
881417 WYNNE/CA0353		UT0743	HRS		63.9	63.2	3.1	900	857	4
881418 WYNNE/CA0353		UT0817	HRS		63.4	63.2	3.6	895	883	3
881419 WYNNE/CA0353		UT0884	HRS		62.6	62.5	3.6	880	874	3
881420 UT74525-910/CA0353		UT1309	HRS		63.6	62.8	2.8	905	855	4
881421 UT74525-910/CA0353		UT1437	HRS		62.7	61.7	2.0	890	828	5

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LABNUM	VARIETY	IDNO	CLASS	CODI	CODIC	CAVOL	SCSOR	WTIN	NOSCOR	RMKS
881392 MCKAY		CI017903	HRS							
881393 FEDERATION		CI004734	SWS	8.98	8.92	1285	74.0	358	72	
881394 OWENS		CI017904	SWS	9.00	8.88	1310	79.0	367	77	
881395 PENEWAWA		PI495916	SWS	8.74	8.66	1280	78.0	360	77	
881396 K75579/BORAH		WA7075	HRS							
881397 K78504/K79129-33/...		WA7183	SWS	8.91	8.82	1255	75.0	363	78	Q-BCRGR, FYELD
881398 TANAGER SIB		OR8508	HRS							
881399 NHS7664/NDM0004		WA7328	HRS							
881400 K7205078/CI14193		WA7326	HRS							Q-BCRGR, MTIME
881401 K78504/K74129-33/...		WA7176	SWS	8.94	8.85	1220	73.0	357	73	Q-SCSOR, NOSCOR
881402 K78504/K74129-33/...		WA7492	SWS	8.83	8.76	1295	75.0	346	73	P-FYELD, Q-NOSCOR
881403 COMBIRD S./2*STERLING		ID0312	SWS	8.89	8.76	1285	76.0	355	76	
881404 VEERY.S CM33027F		OR8509	HRS							Q-FYELD, P-LVOL, BCRGR
881405 MINIVET S CM37705K		OR8510	HRS							Q
881406 KVZ/3/T08/CFN/...		OR8511	HRS							P-MTIME, LVOL, BCRGR
881407 TITMOVE S CM30136-3		OR8422	HRS							Q-FYELD
881408 BOW S CM33023-F		OR8512	HRS							P-LVOL, BCRGR
881409 K7400315/PTM70S.47		WA7496	SWS	9.00	8.98	1325	77.0	353	72	Q-NOSCOR
881410 COMBIRD"S"/5/MC/...		ID0341	HRS							Q-LVOL, BCRGR
881411 COMBIRD"S"/STERLING		ID0365	HRS							Q-BCRGR
881412 BRH/3/11-60-101/...		ID0366	HRS							
881413 2*SLG//COMBIRD"S"/SLG		ID0348	SWS	8.89	8.72	1270	75.0	357	77	
881414 OWENS/FIELDWIN		ID0372	SWS	8.87	8.69	1270	74.0	339	75	Q-SCSOR, NOSCOR
881415 ID0172/FIELDWIN SEL8		ID0373	SWS	8.86	8.72	1290	76.0	363	81	
881416 FREMONT/ID0165		UT0526	HRS							P-LVOL, BCRGR
881417 WYNNE/CA0353		UT0743	HRS							Q-BCRGR
881418 WYNNE/CA0353		UT0817	HRS							Q-BCRGR
881419 WYNNE/CA0353		UT0884	HRS							Q-BCRGR
881420 UT74525-910/CA0353		UT1309	HRS							Q-BCRGR
881421 UT74525-910/CA0353		UT1437	HRS							P-MTIME, BCRGR

ID, MT, OR

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LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	WPROT	FPROT	MABS
881422	HDM0004/NK0751	<u>6</u> /WA7493	HRS	61.8	72.8	0.43	83.1	12.0	11.4	62.9
881423	CORVALLIS DUAL PURPOSE	OR487503	SWS	60.4	69.2	0.42	76.8	12.2	10.3	56.2
881424	EMU SIB/TJB84/843	OR487570	SWS	60.3	70.3	0.43	77.2	12.3	10.4	56.2
881425	SAP SIB/MON SIB	OR487316	SWS	60.4	67.9	0.44	72.6	11.8	10.3	55.3
881426	BUCK/MATUCHE	OR487006	HRS	62.9	71.0	0.43	82.0	13.7	12.3	62.9
881427	A761025-1-2/ID0134	ID0367	HRS	62.3	71.0	0.41	82.2	13.0	12.1	63.0
881428	A761025-1-2/ID0134	ID0368	HRS	62.1	71.2	0.37	85.0	13.5	12.2	64.2
881429	ID0204/ID0314	ID75021	HRS	63.0	69.9	0.41	80.8	14.2	12.8	64.0
881430	ID0204/ID0314	<u>6</u> /ID0379	SWS	62.2	70.4	0.41	78.8	11.5	10.1	53.0

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ID, MT, OR

LABNUM	VARIETY	IDNO	CLASS	MABSC	MTYPE	FABS	FABSC	FPEAK	FSTAB	VISC
881422	HDM0004/NK0751	WA7493	HRS	62.5	4H	60.1	59.7	7.5	12.5	
881423	CORVALLIS DUAL PURPOSE	OR487503	SWS	56.9	4M					157
881424	EMU SIB/TJB84/843	OR487570	SWS	56.8	4M					154
881425	SAP SIB/MON SIB	OR487316	SWS	56.0	2M					131
881426	BUCK/MATUCHE	OR487006	HRS	61.6	4H	63.1	61.8	8.6	11.3	
881427	A761025-1-2/ID0134	ID0367	HRS	61.9	5H	62.5	61.4	10.9	20.6	
881428	A761025-1-2/ID0134	ID0368	HRS	63.0	4H	63.5	62.3	9.6	20.2	
881429	ID0204/ID0314	ID75021	HRS	62.2	3H	64.3	62.5	5.5	9.8	
881430	ID0204/ID0314	ID0379	SWS	53.9	1M					100

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

WESTERN REGIONAL SPRING

Contd. PAGE 2(b)

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ID, MT, OR

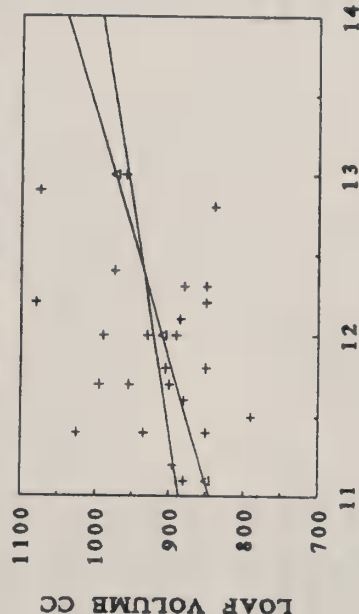
LABNUM	VARIETY	IDNO	CLASS	VISCC	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR
881422	HDM0004/NK0751	WA7493	HRS		64.6	64.2	3.3	935	910	3
881423	CORVALLIS DUAL PURPOSE	OR487503	SWS	178						
881424	EMU SIB/TJ884/843	OR487570	SWS	171						
881425	SAP SIB/MON SIB	OR487316	SWS	148						
881426	BUCK/MATUCHE	OR487006	HRS		64.1	62.8	4.1	880	799	4
881427	A761025-1-2/ID0134	ID0367	HRS		64.7	63.6	4.8	885	817	4
881428	A761025-1-2/ID0134	ID0368	HRS		65.9	64.7	4.1	850	776	5
881429	ID0204/ID0314	ID75021	HRS		65.7	63.9	2.6	840	728	4
881430	ID0204/ID0314	ID0379	SWS	118						

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ID, MT, OR

LABNUM	VARIETY	IDNO	CLASS	CODI	CODIC	CAVOL	SCSOR	WTIN	NOSCOR	RMKS
881422	HDM0004/NK0751	WA7493	HRS							Q-BCRGR
881423	CORVALLIS DUAL PURPOSE	OR487503	SWS	8.54	8.46	1295	76.0	334	72	P-CODI,Q-NOSCOR
881424	EMU SIB/TJ884/843	OR487570	SWS	8.48	8.41	1270	76.0	331	74	P-CODI
881425	SAP SIB/MON SIB	OR487316	SWS	8.59	8.51	1260	72.0	350	75	P-CODI,SCSOR
881426	BUCK/MATUCHE	OR487006	HRS							Q-LVOL,BCRGR
881427	A761025-1-2/ID0134	ID0367	HRS							Q-LVOL,BCRGR
881428	A761025-1-2/ID0134	ID0368	HRS							P-LVOL,BCRGR
881429	ID0204/ID0314	ID75021	HRS							P-LVOL,BCRGR
881430	ID0204/ID0314	ID0379	SWS	8.89	8.79	1275	75.0	356	76	

LOAF VOLUME VS PROTEIN
WESTERN REGIONAL SPRING WHEAT (HRS)



COMMENTS: Samples used for these analysis were composites of equal amount of seed from plots grown at Ontario, OR, Bozeman and Kalispell, MT, and Aberdeen, ID. Flour milling properties were poorer than normal (low yield and high ash) resulting in low milling scores. Experimental lines were judged accordingly. A few of the HRS lines footnoted as promising were marginal in bread crumb features. See "Remarks" for these and major deficiencies of others. The accompanied plot of loaf volumes vs protein shows the wide range of bread baking quality among the HRS entries. Several are better than current standards (expected line), while others were significantly poorer.

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DAVIS, CA

QUALSET/JONES

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
881431 1		8105/1	HWS	63.7	70.8	0.29	91.1	6.1	63.2	4L
881432 ANZA (2)		8105/2	HRS	61.7	70.4	0.23	93.8	5.7	60.1	3L
881433 YECORA ROJO (3)		8105/3	HRS	62.9	70.1	0.30	89.8	8.0	66.5	8L
881434 4		8105/4	HRW	63.6	70.7	0.31	90.0	8.3	63.8	3M
881435 5		8105/5	HRW	63.2	68.7	0.26	90.5	8.1	65.4	6L
881436 CHEYENNE (6)		8105/6	HRW	63.3	71.4	0.28	92.3	8.0	65.1	8L
881437 7		8105/7	HRW	65.3	69.1	0.29	89.3	9.0	66.5	4M
881438 8		8105/8	HRW	63.2	70.7	0.26	92.6	7.7	64.3	8L
881439 9		8105/9	HRW	62.7	70.3	0.30	90.1	8.2	64.6	3M
881440 10		8105/10	HRW	62.6	70.5	0.32	89.3	7.5	65.6	6L
881441 11		8105/11	HRW	61.7	67.0	0.31	86.1	6.7	64.6	8L
881442 12		8105/12	HRW	63.6	66.6	0.31	85.7	8.2	65.4	6L
881443 13		8105/13	HRW	63.5	68.5	0.29	88.7	6.8	65.7	8L
881444 14		8105/14	HRW	63.3	68.3	0.30	87.9	6.8	62.9	8L
881445 15		8105/15	HRW	61.2	70.5	0.31	89.8	7.4	63.8	7L
881446 16		8105/16	HRW	62.2	72.9	0.32	91.7	7.1	61.2	7L
881447 17		8105/17	HRW	64.0	70.4	0.34	88.1	7.9	63.6	6L
881448 18		8105/18	HRW	62.7	70.6	0.34	88.4	8.3	61.6	8L
881449 19		8105/19	HRS	62.4	72.8	0.35	90.1	7.5	64.6	6L
881450 20		8105/20	HRS	65.5	71.0	0.37	87.1	6.9	64.4	6L
881451 21		8105/21	HWS	63.3	71.5	0.34	89.2	6.9	63.4	8L
881452 22		8105/22	HRW	66.2	72.4	0.30	92.3	8.0	63.3	6L
881453 23		8105/23	HRW	63.2	71.4	0.31	90.7	8.0	63.5	8L
881454 24		8105/24	HRW	62.2	70.3	0.36	87.0	9.0	63.5	6L
881455 7		8105/49	HRW	65.4	68.8	0.36	85.4	11.4	62.8	2H
881456 12		8105/50	HRW	64.4	66.9	0.32	85.5	9.8	65.1	7M
881457 ANZA (2)		8105/51	HRS	63.4	69.1	0.36	85.7	9.1	58.6	2M
881458 YECORA ROJO (3)		8105/52	HRS	62.2	69.0	0.36	85.6	12.3	66.7	5H
881459 15		8105/53	HRW	62.1	70.7	0.34	88.4	9.9	64.2	6M
881460 9		8105/54	HRW	63.7	71.2	0.34	89.0	10.9	65.0	2H

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DAVIS, CA

QUALSET/JONES

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					<u>3/</u>			<u>4/</u>		
881431 1		8105/1	HWS	61.0	64.9	2.9	555	797	9	P-BCRGR
881432 ANZA (2)		8105/2	HRS	57.5	61.8	2.2	440	707	9	
881433 YECORA ROJO (3)		8105/3	HRS	65.2	67.2	4.7	765	889	4	
881434 4		8105/4	HRW	62.8	64.5	3.6	745	850	5	Q-BCRGR
881435 5		8105/5	HRW	64.2	66.1	3.5	790	908	6	
881436 CHEYENNE (6)		8105/6	HRW	63.3	65.3	5.2	705	829	4	
881437 7		8105/7	HRW	65.7	66.7	3.2	750	812	6	Q-BCRGR
881438 8		8105/8	HRW	62.2	64.5	4.4	720	863	6	Q-BCRGR
881439 9		8105/9	HRW	62.5	64.3	2.3	790	902	6	Q-MTIME,BCRGR
881440 10		8105/10	HRW	62.8	65.3	3.8	715	870	8	Q-BCRGR
881441 11		8105/11	HRW	61.0	64.3	3.5	580	785	9	P-FYELD,BCRGR
881442 12		8105/12	HRW	66.3	68.1	4.3	740	852	8	P-BCRGR,FYELD
881443 13		8105/13	HRW	62.2	65.4	3.6	630	828	9	Q-FYELD,BCRGR
881444 14		8105/14	HRW	59.4	62.6	4.7	610	808	9	P-BCRGR, Q-FYELD
881445 15		8105/15	HRW	60.9	63.5	4.4	700	861	8	P-BCRGR
881446 16		8105/16	HRW	58.0	60.9	4.1	770	950	7	Q-BCRGR
881447 17		8105/17	HRW	61.2	63.3	4.4	745	875	6	Q-BCRGR
881448 18		8105/18	HRW	59.6	61.3	5.4	760	865	5	Q-BCRGR
881449 19		8105/19	HRS	61.8	64.3	4.2	695	850	8	P-BCRGR
881450 20		8105/20	HRS	61.0	64.1	4.5	660	852	9	P-BCRGR
881451 21		8105/21	HWS	60.0	63.1	4.3	645	837	9	P-BCRGR
881452 22		8105/22	HRW	61.0	63.0	4.2	670	794	8	P-BCRGR
881453 23		8105/23	HRW	61.2	63.2	6.3	670	794	9	P-BCRGR
881454 24		8105/24	HRW	63.2	64.2	5.0	700	762	7	P-BCRGR
881455 7		8105/49	HRW	63.9	62.5	2.1	830	743	4	Q-MTIME,BCRGR
881456 12		8105/50	HRW	64.6	64.8	3.3	800	812	5	P-FYELD,BCRGR
881457 ANZA (2)		8105/51	HRS	57.4	58.3	1.9	525	581	9	
881458 YECORA ROJO (3)		8105/52	HRS	69.7	67.4	3.7	950	807	3	
881459 15		8105/53	HRW	64.8	64.9	3.6	825	831	4	Q-BCRGR
881460 9		8105/54	HRW	66.6	65.7	2.3	905	849	4	Q-MTIME,BCRGR

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QUALSET/JONES

LABNUM	VARIETY	IDNO	CLASS	TWT	FYEL	FASH	MSCOR	FPROT	MABSC	MTYPE
881461 24	CHEYENNE (6)	8105/55	HRW	62.7	69.9	0.38	85.5	11.0	66.0	5H
881462 19		6/ 8105/56	HRS	63.4	71.5	0.38	87.2	11.4	67.6	5H
881463 11		8105/57	HRW	63.6	68.6	0.35	85.7	9.7	68.4	8M
881464 17		8105/58	HRW	64.0	71.2	0.35	88.5	11.4	65.6	8M
881465		8105/59	HRW	64.2	71.2	0.36	87.9	9.6	67.4	8M
881466 13		8105/60	HRW	64.9	70.4	0.32	89.2	8.7	67.4	7L
881467 16		8105/61	HRW	63.1	72.1	0.34	89.9	8.8	63.2	6L
881468 10		8105/62	HRW	63.6	70.2	0.32	89.0	9.7	67.3	6M
881469 4		8105/63	HRW	63.4	69.8	0.36	86.5	10.3	63.7	4M
881470 1		8105/64	HWS	65.4	70.6	0.31	89.9	8.7	65.4	4M
881471 8		8105/65	HRW	63.6	71.1	0.40	85.7	9.0	66.0	8M
881472 14		8105/66	HRW	64.0	69.5	0.33	87.7	7.6	65.8	7L
881473 21		8105/67	HWS	63.5	72.9	0.38	88.8	10.5	66.6	8M
881474 23		8105/68	HRW	63.9	71.4	0.31	90.8	10.4	64.9	8M
881475 18		8105/69	HRW	64.1	71.3	0.34	89.1	9.8	67.2	8M
881476 5		8105/70	HRW	63.3	68.4	0.34	86.1	10.0	65.8	6M
881477 20		8105/71	HRS	62.0	70.7	0.37	86.9	10.6	68.2	6M
881478 22		8105/72	HRW	66.0	71.5	0.31	90.8	10.2	67.0	6M
881479 1		8105/97	HRS	63.2	69.6	0.27	91.0	10.3	69.2	7M
881480 11		8105/98	HRW	63.2	69.4	0.29	89.7	11.7	66.1	6M
881481 13		8105/99	HRW	64.1	69.4	0.26	91.3	10.5	69.8	8M
881482 21		8105/100	HWS	63.4	72.3	0.28	93.3	11.5	66.3	8M
881483 16		8105/101	HRW	61.9	71.8	0.29	92.2	11.6	68.3	7H
881484 24		8105/102	HRW	61.6	70.3	0.28	91.2	13.5	69.8	8H
881485		8105/103	HRW	62.7	71.3	0.32	90.2	12.4	69.3	7H
881486 ANZA (2)		8105/104	HRS	63.5	70.2	0.28	91.1	9.2	63.3	2M
881487 8		6/ 8105/105	HRW	62.9	71.1	0.27	92.5	11.7	70.4	6H
881488 YECORA ROJO (3)		8105/106	HRS	63.6	71.8	0.28	92.6	11.2	69.6	5H
881489 12		8105/107	HRW	62.0	69.2	0.27	90.5	12.8	69.2	7H
881490 18		6/ 8105/108	HRW	64.0	72.1	0.30	92.0	11.7	64.1	7H

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QUALSET/JONES

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
881461 24	CHEYENNE (6)	8105/55	HRW	67.7	66.7	5.1	835	773	5	Q-BCRGR
881462 19		8105/56	HRS	69.7	68.3	4.3	975	888	2	
881463 11		8105/57	HRW	68.8	69.1	4.1	780	799	6	Q-FYELD,BCRGR
881464 17		8105/58	HRW	66.7	65.3	4.8	845	758	4	Q-BCRGR
881465		8105/59	HRW	67.7	68.1	5.0	795	820	4	
881466 13		8105/60	HRW	66.8	68.1	4.4	735	816	8	P-BCRGR
881467 16		8105/61	HRW	61.7	62.9	4.7	825	899	5	Q-BCRGR
881468 10		8105/62	HRW	67.7	68.0	3.2	795	814	5	Q-BCRGR
881469 4		8105/63	HRW	64.7	64.4	2.7	845	826	4	Q-BCRGR
881470 1		8105/64	HWS	64.8	66.1	2.8	720	801	8	P-BCRGR
881471 8		8105/65	HRW	65.7	66.7	4.2	765	827	6	Q-BCRGR
881472 14		8105/66	HRW	64.1	66.5	4.3	735	884	9	P-BCRGR
881473 21		8105/67	HWS	67.8	67.3	4.3	900	869	3	Q-BCRGR
881474 23		8105/68	HRW	66.0	65.6	5.1	820	795	6	P-BCRGR
881475 18		8105/69	HRW	67.7	67.9	6.4	870	882	4	Q-BCRGR
881476 5		8105/70	HRW	66.0	66.0	3.7	740	740	5	
881477 20		8105/71	HRS	69.5	68.9	3.3	845	808	6	Q-BCRGR
881478 22		8105/72	HRW	67.9	67.7	3.7	835	823	5	Q-BCRGR
881479 1		8105/97	HRS	70.2	69.9	3.1	840	821	5	Q-BCRGR
881480 11		8105/98	HRW	68.5	66.8	3.4	880	775	4	Q-BCRGR
881481 13		8105/99	HRW	71.0	70.5	4.2	835	804	4	Q-FYELD
881482 21		8105/100	HWS	68.5	67.0	4.7	925	832	5	Q-BCRGR
881483 16		8105/101	HRW	68.6	67.0	7.0	855	756	5	Q-BCRGR,MTIME
881484 24		8105/102	HRW	74.0	70.5	6.5	955	738	3	Q-BCRGR
881485		8105/103	HRW	72.4	70.0	5.6	950	801	2	
881486 ANZA (2)		8105/104	HRS	63.2	64.0	1.7	700	750	9	
881487 8		8105/105	HRW	72.8	71.1	5.4	920	815	2	
881488 YECORA ROJO (3)		8105/106	HRS	71.5	70.3	3.9	905	831	3	
881489 12		8105/107	HRW	72.7	69.9	5.1	965	791	4	Q-BCRGR
881490 18		8105/108	HRW	66.5	64.8	6.7	935	830	2	

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DAVIS, CA

QUALSET/JONES

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
881491 19		6/ 8105/109	HRS	63.2	74.1	0.36	90.9	12.0	69.8	6H
881492 14		8105/110	HRW	62.8	70.9	0.34	88.6	10.8	66.4	8H
881493 23		6/ 8105/111	HRW	62.4	71.5	0.32	90.3	12.6	69.9	8H
881494 9		8105/112	HRW	62.7	71.1	0.34	88.9	13.5	67.5	3H
881495 4		6/ 8105/113	HRW	61.9	71.0	0.37	87.2	13.5	68.7	5H
881496 15		6/ 8105/114	HRW	61.9	72.5	0.32	91.4	12.2	67.3	5H
881497 22		8105/115	HRW	64.8	71.9	0.30	91.8	12.2	68.8	5H
881498 10		6/ 8105/116	HRW	62.7	70.8	0.31	90.1	12.7	68.8	4H
881499 5		6/ 8105/117	HRW	63.0	71.9	0.32	90.7	12.4	70.7	7H
881500 17		6/ 8105/118	HRW	61.8	69.6	0.35	86.8	13.0	67.8	3H
881501 7		8105/119	HRW	64.5	69.9	0.35	87.1	13.0	69.5	4H
881502 20		8105/120	HRS	62.2	72.6	0.34	90.5	12.1	66.7	3H

1/ Observed Values corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 10% Protein

4/ Observed Values Corrected to 10% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

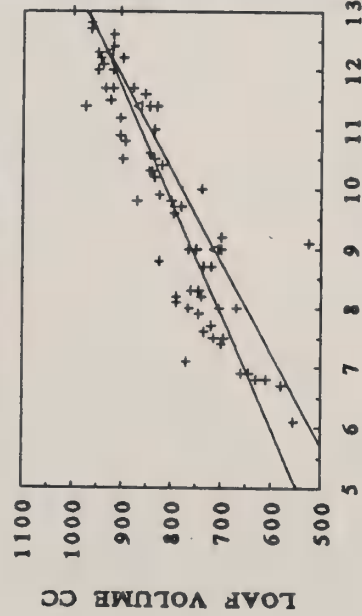
NURSCO 47

DAVIS, CA

QUALSET/JONES

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	BCRGR	RMKS
881491 19		8105/109	HRS	72.5	70.5	5.6	920	796	2
881492 14		8105/110	HRW	67.9	67.1	3.9	895	845	5 Q-BCRGR
881493 23		8105/111	HRW	73.2	70.6	6.8	920	759	2
881494 9		8105/112	HRW	70.7	67.2	2.5	925	708	2 Q-MTIME, LVOL
881495 4		8105/113	HRW	71.9	68.4	3.2	1025	808	3 Q-BCRGR
881496 15		8105/114	HRW	70.2	68.0	4.5	945	809	3 Q-BCRGR
881497 22		8105/115	HRW	71.7	69.5	4.6	900	764	3 Q-BCRGR, LVOL
881498 10		8105/116	HRW	72.2	69.5	3.2	965	798	2
881499 5		8105/117	HRW	72.3	69.9	6.6	920	771	2
881500 17		8105/118	HRW	71.0	68.0	3.5	1000	814	2 Q-FYELD
881501 7		8105/119	HRW	72.7	69.7	2.3	905	719	6 Q-MTIME, BCRGR
881502 20		8105/120	HRS	69.0	66.9	3.4	940	810	5 Q-BCRGR

LOAF VOLUME VS PROTEIN
VARIETY I N (8105)



COMMENTS: There are several selections in this study which appear promising if grown under higher fertility levels. Many appear similar to Cheyenne in dough mixing properties and loaf volume and structure. Cheyenne has never been noted for good loaf volume and/or excellent crumb grain. The loaf volume response to protein is not good at a slope (a0) of 52.78/% protein. See accompanied plot and equation.

PROTEIN %

+ EXP CROSSES Δ EXPECTED

NURSCO 48

DAVIS, CA

QUALSET/JONES

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
881503 1		8106/1	HWS	63.5	72.6	0.36	89.4	6.4	63.4	3L
881504 ANZA (2)		8106/2	HRS	61.4	71.8	0.35	89.0	5.7	60.5	2L
881505 YECORA ROJO (3)		8106/3	HRS	62.5	72.1	0.42	85.7	8.0	64.0	8M
881506 4		8106/4	HRS	60.3	71.2	0.38	86.9	8.0	66.0	8L
881507 5		8106/5	HRS	64.0	70.1	0.37	86.2	8.5	65.0	4M
881508 6		8106/6	HRS	64.4	70.7	0.32	89.5	8.9	65.5	6L
881509 7		8106/7	HRS	61.6	71.3	0.39	86.5	8.5	65.7	4L
881510 8		8106/8	HRS	62.5	71.4	0.36	88.1	8.3	67.8	6L
881511 9		8106/9	HRS	62.5	70.7	0.35	87.9	7.2	64.8	4L
881512 10		8106/10	HRS	62.2	71.7	0.33	90.0	6.9	66.1	6L
881513 11		8106/11	HRS	61.8	71.5	0.31	90.9	7.9	65.5	6L
881514 12		8106/12	HRS	62.0	71.3	0.30	91.2	7.0	65.8	6L
881515 13		8106/13	HRS	62.1	70.5	0.36	87.2	6.7	65.2	8L
881516 14		8106/14	HRS	62.3	71.1	0.32	89.8	7.5	66.2	8L
881517 5		8106/29	HRS	63.6	69.4	0.36	86.1	11.0	63.8	4M
881518 9		8106/30	HRS	63.1	71.9	0.33	90.3	9.5	65.8	4L
881519 11		8106/31	HRS	62.1	71.8	0.32	90.7	10.8	65.1	6M
881520 12		8106/32	HRS	62.7	71.3	0.34	89.1	9.9	66.5	7M
881521 YECORA ROJO (3)		6/ 8106/33	HRS	62.8	71.3	0.36	88.1	11.9	64.5	4H
881522 6		8106/34	HRS	62.1	68.9	0.30	88.7	10.8	66.6	8M
881523 14		6/ 8106/35	HRS	62.9	72.2	0.37	88.5	11.2	66.5	5H
881524 1		8106/36	HWS	64.7	71.5	0.32	90.4	8.9	64.6	4M
881525 4		8106/37	HRS	60.9	70.5	0.35	87.8	10.0	65.3	8M
881526 10		8106/38	HRS	63.7	72.7	0.33	91.1	10.7	66.1	4H
881527 7		8106/39	HRS	61.4	70.1	0.41	84.3	11.3	67.2	7M
881528 ANZA (2)		8106/40	HRS	63.2	70.5	0.34	88.3	8.7	62.8	2M
881529 8		8106/41	HRS	61.8	70.3	0.36	87.1	11.1	68.1	8M
881530 13		8106/42	HRS	62.0	71.2	0.36	88.0	10.9	65.8	3H
881531 5		8106/57	HRS	61.2	68.4	0.36	85.0	13.3	67.5	6M
881532 ANZA (2)		8106/58	HRS	63.7	70.6	0.34	88.3	9.7	63.0	2M

NURSCO 48

DAVIS, CA

QUALSET/JONES

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					<u>3/</u>			<u>4/</u>		
881503 1		8106/1	HWS	60.5	64.1	2.6	545	768	9	Q-MTIME, P-BCRGR
881504 ANZA (2)		8106/2	HRS	55.9	60.2	1.6	440	707	9	
881505 YECORA ROJO (3)		8106/3	HRS	62.7	64.7	4.6	760	884	5	
881506 4		8106/4	HRS	64.7	66.7	4.7	685	809	8	P-BCRGR
881507 5		8106/5	HRS	64.2	65.7	3.0	765	858	7	P-BCRGR
881508 6		8106/6	HRS	65.1	66.2	3.3	765	833	7	P-BCRGR
881509 7		8106/7	HRS	64.9	66.4	2.8	740	833	5	Q-BCRGR
881510 8		8106/8	HRS	66.8	68.5	4.5	715	820	6	Q-NCRGR
881511 9		8106/9	HRS	61.7	64.5	2.4	720	894	9	P-MTIME, BCRGR
881512 10		8106/10	HRS	63.7	66.8	4.3	650	842	9	P-BCRGR
881513 11		8106/11	HRS	64.1	66.2	4.3	625	755	9	P-BCRGR
881514 12		8106/12	HRS	63.5	66.5	4.0	730	916	8	P-BCRGR
881515 13		8106/13	HRS	62.6	65.9	4.5	725	930	8	P-BCRGR
881516 14		8106/14	HRS	64.4	66.9	5.0	735	890	7	P-BCRGR
881517 5		8106/29	HRS	65.5	64.5	2.6	835	773	3	Q-FYELD, BCRGR
881518 9		8106/30	HRS	66.0	66.5	3.0	865	896	4	Q-BCRGR
881519 11		8106/31	HRS	66.6	65.8	4.0	795	745	4	Q-BCRGR
881520 12		8106/32	HRS	67.1	67.2	4.4	930	936	4	
881521 YECORA ROJO (3)		8106/33	HRS	67.1	65.2	3.4	960	842	2	
881522 6		8106/34	HRS	71.1	70.3	3.3	865	815	3	Q-BCRGR
881523 14		8106/35	HRS	68.4	67.2	4.3	935	861	2	
881524 1		8106/36	HWS	64.2	65.3	2.5	755	823	7	Q-MTIME, P-BCRGR
881525 4		8106/37	HRS	66.0	66.0	4.3	800	800	5	Q-BCRGR
881526 10		8106/38	HRS	67.5	66.8	3.7	775	732	6	P-BCRGR
881527 7		8106/39	HRS	69.2	67.9	3.1	850	769	3	Q-BCRGR, MSCOR
881528 ANZA (2)		8106/40	HRS	62.2	63.5	1.5	565	646	9	
881529 8		8106/41	HRS	70.9	69.8	4.1	815	747	4	Q-BCRGR
881530 13		8106/42	HRS	67.9	67.0	3.4	835	779	4	Q-BCRGR
881531 5		8106/57	HRS	72.0	68.7	3.3	960	755	4	Q-FYELD, BCRGR
881532 ANZA (2)		8106/58	HRS	62.9	63.2	1.5	705	724	8	

NURSCO 48

DAVIS, CA

QUALSET/JONES

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
881533 8		6/ 8106/59	HRS	60.4	69.1	0.35	86.3	12.4	67.5	5H
881534 13		8106/60	HRS	61.7	72.1	0.35	89.4	12.8	67.0	5H
881535 12		6/ 8106/61	HRS	61.9	71.7	0.36	88.5	13.0	66.0	3H
881536 14		6/ 8106/62	HRS	62.6	71.7	0.36	88.5	12.1	67.3	5H
881537 9		8106/63	HRS	62.5	71.5	0.36	88.3	11.4	65.0	4M
881538 4		8106/64	HRS	59.8	68.7	0.33	86.9	11.9	66.9	8M
881539 1		8106/65	HWS	63.2	70.0	0.32	88.8	10.1	65.6	4M
881540 6		6/ 8106/66	HRS	61.6	68.2	0.30	87.9	12.9	65.8	7M
881541 11		8106/67	HRS	60.9	70.3	0.34	88.0	13.9	65.7	3H
881542 YECORA ROJO (3)		8106/68	HRS	61.7	70.5	0.35	87.8	13.7	66.8	6H
881543 10		8106/69	HRS	63.1	73.3	0.31	92.7	12.7	68.4	5H
881544 7		8106/70	HRS	60.3	70.4	0.38	86.1	13.2	67.5	5H

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 10% Protein

4/ Observed Values Corrected to 10% Protein -

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

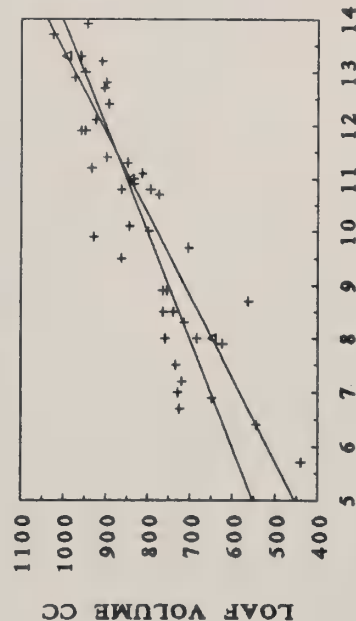
MURSCO 48

DAVIS, CA

QUALSET/JONES

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
881533 8		8106/59	HRS	71.1	68.7	4.5	895	746	2	
881534 13		8106/60	HRS	71.0	68.2	3.7	900	726	5	Q-BCRGR, LVOL
881535 12		8106/61	HRS	70.2	67.2	3.4	950	764	2	
881536 14		8106/62	HRS	70.6	68.5	5.3	925	795	2	
881537 9		8106/63	HRS	67.6	66.2	2.8	900	813	4	Q-BCRGR
881538 4		8106/64	HRS	70.0	68.1	4.3	950	832	2	Q-FYELD
881539 1		8106/65	HWS	66.4	66.3	2.6	845	839	5	Q-MTIME, BCRGR
881540 6		8106/66	HRS	69.9	67.0	3.0	975	795	2	
881541 11		8106/67	HRS	70.8	66.9	3.1	945	703	3	Q-LVOL, BCRGR
881542 YECORA ROJO (3)		8106/68	HRS	71.7	68.0	4.1	1025	796	2	
881543 10		8106/69	HRS	72.3	69.6	5.0	905	738	3	Q-LVOL, BCRGR
881544 7		8106/70	HRS	71.9	68.7	3.6	910	712	5	Q-BCRGR, LVOL

LOAF VOLUME VS PROTEIN
VARIETY X N (8106)



Statistics
Size 42
Total 33970
Mean 808.809524
Maximum 1025
Minimum 440
Standard Dev. 128.565299
Standard Error 19.838056
95% Confidence 38.88259
99% Confidence 51.182185
a0 302.075002
a1 50.04197
a2 0
a3 0
a4 0
a5 0
a6 0
Rval 0.877712

Graph A
42
33970
808.809524
1025
440
128.565299
19.838056
38.88259
51.182185
302.075002
50.04197
0
0
0
0
0
0.877712

COMMENTS: As a group the response of loaf volume to increased fertility/protein level was not as good as expected, with a change of 50.0cc/1% protein (See stats table). Several, which are footnoted, did respond with good bread volume and crumb structure at the higher protein levels. There was no problem with milling quality.

NURSCO 49

DELTA CO., CA

C.O. QUALSET

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
881545 1		8109/1	HWS	64.4	71.9	0.31	91.4	12.2	65.2	2H
881546 ANZA (2)		8109/2	HRS	63.9	72.7	0.33	91.1	11.7	62.8	2H
881547 YECORA ROJO (3)		8109/3	HRS	63.0	71.2	0.36	88.0	13.4	66.1	5H
881548 4		<u>5/</u> 8109/4	HRS	61.3	70.5	0.31	89.9	12.8	66.6	5H
881549 5		<u>6/</u> 8109/5	HRS	63.2	69.2	0.37	85.4	12.8	66.2	3H
881550 6		8109/6	HRS	62.9	69.5	0.33	87.7	13.4	65.5	3H
881551 7		8109/7	HRS	61.5	70.5	0.36	87.3	14.8	65.0	3H
881552 8		<u>5/</u> 8109/8	HRS	63.0	71.9	0.35	89.3	12.9	69.6	5H
881553 9		8109/9	HRS	63.5	73.9	0.36	90.9	11.9	65.8	3H
881554 10		8109/10	HRS	62.8	72.6	0.36	89.5	12.3	69.2	3H
881555 11		8109/11	HRS	62.0	71.9	0.37	88.3	13.8	67.1	3H
881556 12		<u>5/</u> 8109/12	HRS	62.1	72.6	0.37	89.0	11.8	68.5	4H
881557 13		8109/13	HRS	62.5	72.2	0.38	88.1	13.6	67.0	5H
881558 14		<u>5/</u> 8109/14	HRS	63.3	71.9	0.37	88.3	13.8	70.4	5H

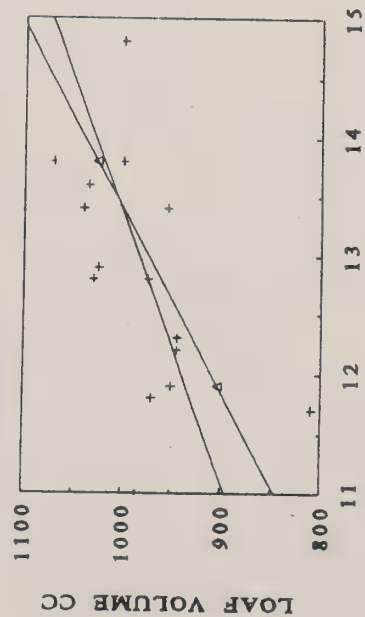
NURSCO 49

DELTA CO., CA

C.O. QUALSET

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
881545 1		8109/1	HWS	64.6	65.4	2.0	945	995	3	P-MTIME, Q-BCRGR
881546 ANZA (2)		8109/2	HRS	62.7	64.0	1.7	810	891	9	
881547 YECORA ROJO (3)		8109/3	HRS	66.7	66.3	4.0	1040	1015	3	
881548 4		8109/4	HRS	66.6	66.8	4.0	1030	1042	2	
881549 5		8109/5	HRS	66.2	66.4	2.5	975	987	2	Q-FYELD
881550 6		8109/6	HRS	66.1	65.7	2.5	955	930	5	Q-BCRGR
881551 7		8109/7	HRS	67.0	65.2	2.5	1000	888	3	P-LVOL, Q-BCRGR
881552 8		8109/8	HRS	69.7	69.8	3.9	1025	1031	2	
881553 9		8109/9	HRS	64.9	66.0	2.5	950	1018	5	Q-BCRGR
881554 10		8109/10	HRS	68.7	69.4	3.4	945	988	5	Q-BCRGR
881555 11		8109/11	HRS	68.1	67.3	2.3	1000	950	4	Q-MTIME, LVOL, BCRGR
881556 12		8109/12	HRS	67.5	68.7	3.4	970	1044	2	
881557 13		8109/13	HRS	66.8	66.2	3.6	1035	998	4	Q-BCRGR
881558 14		8109/14	HRS	71.4	70.6	6.0	1070	1020	2	Q-MTIME-TooLong

LOAF VOLUME VS PROTEIN
SPRING WHEAT VARIETIES - DELTA



COMMENTS: Several of these selections (footnoted) have very good overall quality - better than Yecora Rojo. See "Remarks" for deficiencies of others.

+ EXP CROSSES Δ EXPECTED

NURSCO 50

DAVIS, CA

C.O. QUALSET

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
881559	SOLAR X (TADORNA X 66)	806/2	HRS	62.5	69.0	0.35	86.2	8.8	61.7	8M
881560	(CLEO X 1660 X YR	806/4	HRS	63.3	69.4	0.35	86.6	9.4	62.3	6M
881561	(CLEO X 166) X YR	806/5	HRS	63.2	68.5	0.37	84.6	10.2	64.7	8M
881562	(CLEO X 166) X YR	806/6	HRS	64.0	66.6	0.37	82.6	10.2	64.7	6M
881563	ANZA	806/7	HRS	63.2	68.5	0.34	86.2	8.9	59.1	3M
881564	YECORA ROJO	806/8	HRS	63.2	71.3	0.36	88.1	11.8	66.4	5H
881565	TADIMIA	806/9	HRS	64.0	70.9	0.35	88.2	9.2	62.7	3M
881566	.	806/10	HRS	64.4	65.7	0.38	81.1	8.2	64.5	3M
881567	.	806/11	HRS	63.6	71.9	0.38	87.7	10.0	62.3	8M
881568	YOLO	806/12	HRS	63.2	70.6	0.38	86.3	9.1	58.7	3M
881569	INIA 66R	806/13	HRS	63.6	70.0	0.33	88.3	9.6	62.2	6M
881570	(TADORNA X INIA66VC544) X YR	806/15	HRS	63.2	68.1	0.36	84.7	11.7	66.2	5H
881571	(TADORNA X INIA66VC544) X YR	806/16	HRS	63.2	68.9	0.34	86.6	10.0	63.2	7M
881572	(TODORNA X INIA66VC544) X YR	806/17	HRS	62.8	71.4	0.33	89.7	10.7	62.6	7M
881573	(TAD X 166VC546) X YR	806/18	HRS	63.2	73.0	0.38	88.9	11.2	63.7	4H
881574	[(CLEO X 2 * 166) X YR]X[YR"5"(R)	806/19	HRS	62.4	69.7	0.37	85.9	10.6	63.8	8M

1/ Observed values corrected to 14% moisture basis.

3/ Absorption at 14% moisture corrected to 10% protein.

4/ Observed values corrected to 10% protein.

5/ Particularly promising overall quality characteristics.

6/ Promising overall quality characteristics.

C.O. QUALSET

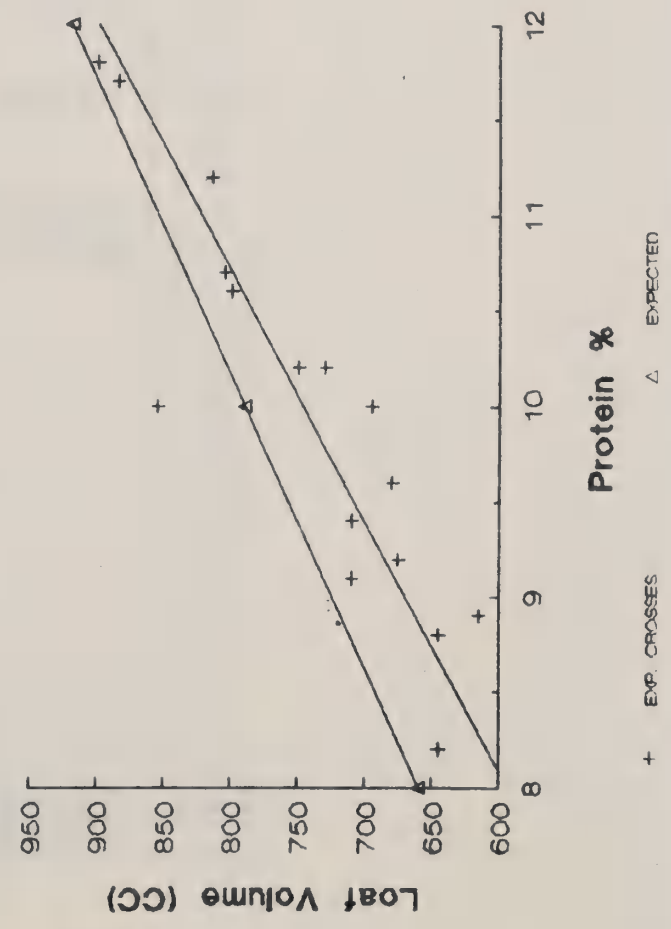
DAVIS, CA

NURSCO 50

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					<u>3/</u>			<u>4/</u>		
881559	SOLAR X (TADORNA X 66)	806/2	HRS	64.2	65.4	6.9	645	719	9	P-LVOL, P-BCRGR
881560	(CLEO X 166) X YF	806/4	HRS	64.4	65.0	3.4	710	747	7	P-LVOL, P-BCRGR
881561	(CLEO X 166) X YR	806/5	HRS	65.6	65.4	3.9	730	718	8	Q-FYELD, P-LVOL, P-BCRGR
881562	(CLEO X 166) X YR	806/6	HRS	66.6	66.4	3.2	750	738	8	P-FYELD, P-LVOL, P-BCRGR
881563	ANZA	806/7	HRS	60.7	61.8	1.9	615	683	9	
881564	YECORA ROJO	806/8	HRS	68.9	67.1	3.7	900	788	4	
881565	TADIMIA	806/9	HRS	62.6	63.4	1.9	675	725	9	P-MTIME, P-LVOL, P-BCRGR
881566	.	806/10	HRS	63.4	65.2	2.2	645	757	9	VP-FYELD, P-LVOL, P-BCRGR
881567	.	806/11	HRS	63.0	63.0	4.1	855	855	5	Q-BCRGR
881568	YOLO	806/12	HRS	58.5	59.4	2.3	710	766	9	
881569	INTA 66R	806/13	HRS	64.5	64.9	3.0	680	705	5	P-LVOL, Q-BCRGR
881570	(TADORNA X INTA66VC544) X YR	806/15	HRS	68.6	66.9	3.7	885	780	8	Q-FYELD, P-BCRGR
881571	(TADORNA X INTA66VC544) X YR	806/16	HRS	64.9	64.9	3.2	695	695	6	P-LVOL, Q-BCRGR
881572	(TODORNA X INTA66VC544) X YR	806/17	HRS	65.0	64.3	3.6	805	762	5	P-LVOL, Q-BCRGR
881573	(TAD X 166VC546) X YR	806/18	HRS	65.6	64.4	3.0	815	741	5	P-LVOL, Q-BCRGR
881574	[(CLEO X 2 * 166) X YR]X[YR"5"(R)	806/19	HRS	65.1	64.5	4.1	800	763	5	P-LVOL, Q-BCRGR

LOAF VOLUME VS PROTEIN

COMMENTS: This nursery averaged 10% flour protein. The major deficiencies of the selections in this nursery were poor loaf volume and bread crumb grain. Nearly all selections had loaf volumes lower than expected for their protein levels, including the check samples (Yecora Rojo, Anza, and Yolo).



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DAVIS, CA

C.O. QUALSET

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
881575	[P-WALTER MONRO X 166R]X[CLEO X 166]X166	824/2	HRS	62.7	70.7	0.34	88.5	9.3	63.5	7M
881576	CLEO X INIA 66	824/5	HRS	59.9	68.5	0.38	84.1	9.9	64.8	8M
881577	[OPAL X 166]XPROBRAND771]X[1AD X 166]X	824/7	HRS	62.6	68.8	0.32	87.6	10.1	64.7	3H
881578	" " " "	824/8	HRS	62.8	69.9	0.33	88.2	9.4	65.8	3H
881579	" " " "	824/9	HRS	63.7	69.2	0.32	88.0	10.3	63.7	3H
881580	" " " "	824/10	HRS	62.3	67.4	0.29	87.7	9.5	63.9	5M
881581	KLEIN TOLEDO X (TADORNA X 166)	824/17	HRS	61.2	68.7	0.32	87.5	10.2	67.2	8M
881582	" " " "	824/18	SRS	62.5	60.0	0.29	80.0	10.8	62.3	8M
881583	SOLAR X(TADORNA X 166)	824/20	HRS	63.4	70.0	0.31	89.3	9.2	64.5	8M
881584	TADIMIA	824/22	HRS	64.2	72.1	0.33	90.5	8.5	62.0	3M
881585	ANZA	824/23	HRS	63.8	69.2	0.34	86.9	8.7	60.0	2M
881586	YECORA ROJO	824/24	HRS	62.5	70.9	0.33	89.2	11.7	63.6	5H
881587	VC683	824/25	HRS	63.7	65.3	0.37	81.3	8.4	62.3	3M
881588	YOLO	824/26	HRS	62.0	72.3	0.36	89.2	9.1	60.4	3M
881589	VC638	824/27	HRS	62.3	72.4	0.37	88.8	10.3	62.1	8M
881590	INIA66R	824/28	HRS	63.0	70.0	0.33	88.3	11.1	64.4	4H
881591	SOLAR X [CLEO X 166]X ANZA]	824/29	HRS	60.3	67.2	0.37	83.3	10.8	65.4	5H
881592	SOLAR X [CLEO X 166]X ANZA]	824/31	HRS	61.5	68.5	0.36	85.2	10.5	64.8	8M
881593	(TADORNA X 166) X YR	824/36	HRS	63.1	69.3	0.33	87.6	10.7	64.8	4H
881594	" " " "	824/38	SRS	62.8	63.8	0.29	84.0	9.4	58.6	8M
881595	" " " "	824/39	SRS	63.4	65.8	0.29	86.0	9.3	59.2	8M
881596	" " " "	824/40	HRS	61.0	70.3	0.38	86.1	9.3	60.9	DM
881597	" " " "	824/41	HRS	60.7	70.3	0.35	87.6	9.8	60.6	8M
881598	" " " "	824/43	HRS	59.8	69.7	0.38	85.5	9.6	61.2	8M
881599	" " " "	824/45	HRS	59.2	70.0	0.37	86.2	9.7	62.1	8M

1/ Observed values corrected to 14% moisture basis. 5/ Particularly promising overall quality characteristics.
3/ Absorption at 14% moisture corrected to 10% protein. 6/ Promising overall quality characteristics.
4/ Observed values corrected to 10% protein.

NURSCO 51

DAVIS, CA

C.O. QUALSET

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC 3/	MTIME	LVOL	LVOLC 4/	BCRGR	RMKS
881575	[P.WALTER MONRO X 166R]X[CLEO X 166)X166 824/2		HRS	63.5	64.2	3.4	720	763	8	P-LVOL, P-BCRGR
881576	CLEO X INIA 66 824/5		HRS	65.4	65.5	4.0	840	846	5	Q-MSCOR, Q-BCRGR
881577	[(OPAL X 166)XPROBRAND771]X[TAD X 166)X 824/7		HRS	65.5	65.4	2.5	850	844	4	
881578	" " " " 824/8		HRS	65.9	66.5	2.9	830	867	5	Q-BCRGR
881579	" " " " 824/9		HRS	64.7	64.4	2.4	870	851	6	Q-BCRGR
881580	" " " " 824/10		HRS	65.1	65.6	2.7	780	811	8	P-FYELD, P-BCRGR
881581	KLEIN TOLEDO X (TADORNA X 166) 824/17		HRS	71.1	70.9	6.3	725	713	7	P-LVOL, Q-P-BCRGR
881582	" " " " 824/18		SRS	65.8	65.0	5.0	870	820	6	VP-FYELD, Q-BCRGR
881583	SOLAR X(TADORNA X 166) 824/20		HRS	67.4	68.2	4.9	685	735	8	P-LVOL, P-BCRGR
881584	TADIMIA 824/22		HRS	61.2	62.7	2.2	620	713	9	P-LVOL, P-BCRGR
881585	ANZA 824/23		HRS	59.4	60.7	1.8	550	631	9	
881586	YECORA ROJO 824/24		HRS	66.0	64.3	3.3	900	795	3	
881587	VC683 824/25		HRS	61.4	63.0	2.1	610	709	9	VP-FYELD, P-LVOL, P-BCRGR
881588	YOLO 824/26		HRS	60.2	61.1	1.8	770	826	9	P-BCRGR
881589	VC638 824/27		HRS	64.1	63.8	4.4	910	891	4	
881590	INIA66R 824/28		HRS	67.2	66.1	3.2	890	822	4	
881591	SOLAR X [CLEO X 166)X ANZA] 824/29		HRS	67.9	67.1	4.1	790	740	5	P-FYELD, P-LVOL, Q-BCRGR
881592	SOLAR X [CLEO X 166)X ANZA] 824/31		HRS	67.0	66.5	4.1	790	759	6	Q-FYELD, P-LVOL, Q-BCRGR
881593	(TADORNA X 166) X YR 824/36		HRS	67.2	66.5	2.7	820	777	6	Q-LVOL, Q-BCRGR
881594	" " " " 824/38		SRS	60.7	61.3	3.9	785	822	4	VP-FYELD
881595	" " " " 824/39		SRS	61.2	61.9	3.7	770	813	6	VP-FYELD, Q-BCRGR
881596	" " " " 824/40		HRS	62.9	63.6	3.8	760	803	7	Q-U-BCRGR
881597	" " " " 824/41		HRS	63.1	63.3	3.8	790	802	6	Q-BCRGR
881598	" " " " 824/43		HRS	63.5	63.9	3.7	785	810	6	Q-BCRGR
881599	" " " " 824/45		HRS	63.5	63.8	4.1	760	779	7	Q-LVOL, Q-U-BCRGR

LOAF VOLUME VS PROTEIN



COMMENTS: This nursery averaged 10% flour protein. The major deficiencies of several selections in this nursery were poor loaf volume, poor bread crumb grain and poor flour yield. Some of the selections had loaf volumes lower than expected for their protein levels.

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DAVIS, CA

C.O. QUALSET

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
						1/		1/	3/	
881600	(TADORNA X I66) X YR	825/1	HRS	61.0	68.9	0.37	85.1	10.2	61.0	6M
881601	(CLEO X I66) X YR	825/4	HRS	62.8	68.3	0.36	84.9	9.3	64.7	7M
881602	" " " "	825/5	HRS	62.5	68.7	0.34	86.4	9.8	62.9	5M
881603	" " " "	825/6	HRS	63.8	67.9	0.36	84.6	9.9	66.1	8M
881604	(CLEO X 2 * I66) X YR	825/7	HRS	59.7	66.2	0.38	81.7	9.2	62.2	5M
881605	(TADORNA X I66) X YR	825/9	HRS	64.0	68.0	0.38	83.6	9.6	65.2	7M
881606	(TADORNA X I66) X YR	825/12	HRS	63.7	71.4	0.32	90.2	9.6	63.9	7M
881607	" " " "	825/13	HRS	63.5	70.8	0.34	88.6	9.7	66.3	8M
881608	" " " "	825/14	HRS	62.5	69.9	0.35	87.1	10.0	64.5	8M
881609	(TADORNA X I66UC544) X YR	825/16	HRS	61.2	68.6	0.34	86.3	9.1	62.7	6M
881610	" " " "	825/18	HRS	61.9	68.3	0.41	82.3	8.8	62.1	5M
881611	" " " "	825/20	HRS	61.2	67.5	0.41	81.5	8.9	62.0	5M
881612	" " " "	825/21	HRS	62.8	69.7	0.36	86.4	10.4	64.3	7M
881613	TADIMIA	825/22	HRS	63.5	70.1	0.39	85.2	8.7	60.2	3M
881614	ANZA	825/23	HRS	62.7	69.0	0.40	83.6	8.7	60.2	3M
881615	YECORA ROJO	825/24	HRS	63.0	71.0	0.39	86.2	10.9	65.4	4H
881616	UC638	6/ 825/25	HRS	62.9	70.9	0.39	86.1	9.8	64.1	8M
881617	UC683	825/26	HRS	61.7	70.1	0.41	84.2	8.9	62.5	3M
881618	YOLO	825/27	HRS	62.9	69.7	0.38	85.4	11.3	63.0	4H
881619	INIA66R	825/28	HRS	62.8	69.0	0.35	86.2	9.7	62.0	6M
881620	(TADORNA X I66UC544) X YR	825/29	HRS	63.8	70.0	0.36	86.7	9.7	62.0	6M
881621	" " " "	825/31	HRS	63.2	71.0	0.34	88.8	11.1	63.9	4H
881622	" " " "	825/32	HRS	62.7	70.9	0.36	87.6	11.2	64.3	4H
881623	" " " "	825/33	HRS	62.3	70.6	0.40	85.2	10.7	64.2	8M
881624	(TADORNA X I66UC546) X YR	825/34	HRS	63.5	71.0	0.40	85.7	11.3	63.6	8M
881625	" " " "	825/35	HRS	61.4	68.6	0.41	82.6	9.2	61.7	7M
881626	" " " "	825/36	HRS	63.2	71.0	0.35	88.3	10.5	61.3	8M
881627	[(CLEO X 2 * INIA66) X YR]X[(YR"S"(R)X ME	825/38	HRS	62.0	70.8	0.37	87.1	10.9	60.8	8M
881628	" " " "	825/39	HRS	61.7	70.3	0.32	89.1	10.1	63.1	8M
881629	[(TADORNA X I66) X YR]X[(JUSTIN X 5666)X	825/40 5/	HRS	65.0	73.6	0.30	93.6	10.1	63.7	3H

1/ Observed values corrected to 14% moisture basis.

5/ Particularly promising overall quality characteristics.

3/ Absorption at 14% moisture corrected to 10% protein.

6/ Promising overall quality characteristics.

4/ Observed values corrected to 10% protein.

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DAVIS, CA

C.O. QUALSET

LABNUM	VARIETY	IDNO	CLASS	BABS 3/	BABSC	MTIME	LVOL	LVOLC 4/	BCRGR	RMKS
881600	(TADORNA X 166) X YR	825/1	HRS	63.9	63.7	2.4	765	753	6	P-LVOL, Q-BCRGR
881601	(CLEO X 166) X YR	825/4	HRS	65.7	66.4	3.3	790	833	7	Q-FYELD, Q-P-BCRGR
881602	" " " "	825/5	HRS	64.4	64.6	2.9	690	702	8	P-LVOL, P-BCRGR
881603	" " " "	825/6	HRS	68.7	68.8	5.3	675	681	8	Q-FYELD, P-LVOL, P-BCRGR
881604	(CLEO X 2 * 166) X YR	825/7	HRS	62.1	62.9	2.8	725	775	7	P-FYELD, Q-LVOL, Q-P-BCRGR
881605	(TADORNA X 166) X YR	825/9	HRS	66.5	66.9	4.2	680	705	7	Q-FYELD, P-LVOL, Q-P-BCRGR
881606	(TADORNA X 166) X YR	825/12	HRS	64.2	64.6	3.3	825	850	4	
881607	" " " "	825/13	HRS	66.7	67.0	4.9	835	854	4	
881608	" " " "	825/14	HRS	65.2	65.2	4.3	800	800	4	
881609	(TADORNA X 166UC544) X YR	825/16	HRS	64.5	65.4	3.1	700	756	6	P-LVOL, Q-BCRGR
881610	" " " "	825/18	HRS	62.6	63.8	3.1	680	754	7	Q-FYELD, Q-MSCOR, P-LVOL, Q-P-BCRGR
881611	" " " "	825/20	HRS	62.6	63.7	3.0	655	723	8	P-FYELD, P-LVOL, P-BCRGR
881612	" " " "	825/21	HRS	66.4	66.0	2.9	785	760	6	P-LVOL, Q-BCRGR
881613	TADIMIA	825/22	HRS	60.6	61.9	1.9	640	721	9	P-MTIME, P-LVOL, P-BCRGR
881614	ANZA	825/23	HRS	60.6	61.9	1.8	600	681	9	
881615	YECORA ROJO	825/24	HRS	67.0	66.1	2.9	780	724	2	
881616	UC638	825/25	HRS	64.6	64.8	3.6	865	877	2	
881617	UC683	825/26	HRS	62.1	63.2	1.7	730	798	7	P-MTIME, Q-P-BCRGR
881618	YOLO	825/27	HRS	65.0	63.7	2.8	840	759	4	
881619	INIA66R	825/28	HRS	63.4	63.7	2.6	715	734	8	P-LVOL, P-BCRGR
881620	(TADORNA X 166UC544) X YR	825/29	HRS	64.4	64.7	2.4	725	744	8	P-LVOL, P-BCRGR
881621	" " " "	825/31	HRS	65.7	64.6	2.9	830	762	3	P-LVOL
881622	" " " "	825/32	HRS	66.2	65.0	2.7	860	786	4	
881623	" " " "	825/33	HRS	66.6	65.9	3.6	840	797	5	Q-BCRGR
881624	(TADORNA X 166UC546) X YR	825/34	HRS	66.6	65.3	3.6	880	799	5	Q-BCRGR
881625	" " " "	825/35	HRS	64.6	65.4	3.3	710	760	8	Q-FYELD, Q-MSCOR, P-LVOL, P-BCRGR
881626	" " " "	825/36	HRS	63.5	63.0	3.7	825	794	4	
881627	[(CLEO X 2 * INIA66)X YR]X[(YR"S"(R)X ME	825/38	HRS	63.4	62.5	3.6	870	814	3	
881628	" " " "	825/39	HRS	64.9	64.8	3.6	840	834	3	
881629	[(TADORNA X 166)X YR]X[(JUSTIN X 5666)X	825/40	HRS	65.5	65.4	2.8	910	904	2	

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LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
						1/		1/	3/	
881630	[(TAD X I66)X YRJX KLASIC	825/42	HRS	64.0	72.7	0.31	92.1	10.2	63.1	6M
881631	" " " "	6/ 825/43	HRS	64.5	72.7	0.29	93.2	9.9	63.8	6M
881632	" " " "	825/44	HRS	63.6	72.3	0.32	91.2	10.2	64.6	8M
881633	[(TAD X I66UC546)X YRJX[(TAD X I66)X YR	825/45	HRS	63.7	67.0	0.37	83.0	8.3	58.9	2M

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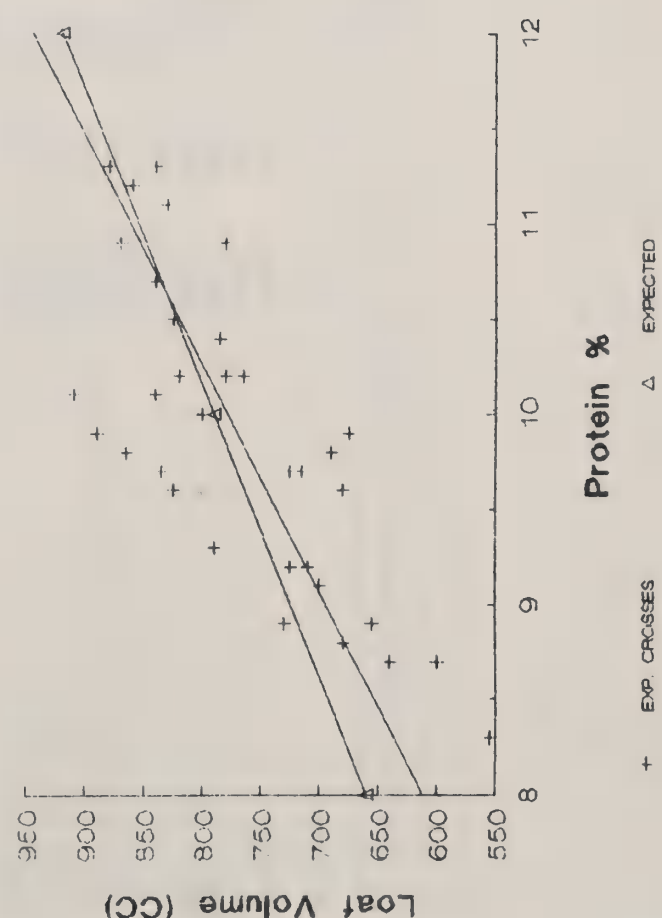
DAVIS, CA

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LABNUM	VARIETY	IDNO	CLASS	BABS 3/	BABSC	MTIME	LVOL	LVOLC 4/	BCRGR	RMKS
881630	[(TAD X 166)X YR]X KLASIC	825/42	HRS	65.0	64.8	2.7	820	808		4
881631	" " " "	825/43	HRS	65.4	65.5	2.8	890	896		3
881632	" " " "	825/44	HRS	66.5	66.3	3.1	780	768		3 P-LVOL
881633	[(TAD X 166UC546)X YR]X[(TAD X 166)X YR	825/45	HRS	59.9	61.6	2.3	555	660		8 P-FYELD, P-LVOL, P-BCRGR

COMMENTS: This nursery averaged 10% flour protein. The major deficiencies of several selections in this nursery were poor loaf volume and poor bread crumb grain. Over half of the selections had loaf volumes lower than expected for their protein levels. Three selections (footnoted) have good overall quality. Noteworthy is 825/40 followed by 825/43 and 825/25.

LOAF VOLUME VS PROTEIN



NURSCO 53

DAVIS, CA

C.O. QUALSET

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
881634	[(TADORNA X 166)X YR]X[(TADORNA X 166)X	826/1	HRS	63.8	72.8	0.35	90.1	10.9	63.7	5H
881635	" " " "	826/2	HRS	62.4	73.1	0.37	89.4	10.5	63.5	6M
881636	(VEERY"S" X PROBRAND771)X[(TADORNA X 166	826/3	HRS	59.5	68.1	0.42	81.6	10.5	64.4	3H
881637	" " " "	826/4	HRS	60.1	68.5	0.40	83.0	10.8	63.2	6M
881638	[(JILQUERO'S X 166)X PROBRAND771]X[(TADX	826/5	HRS	63.5	70.1	0.33	88.3	10.3	63.2	8M
881639	SHASTA	826/6	HRS	61.4	69.2	0.43	82.2	10.9	63.1	2H
881640	KLASIC	826/7	HRS	61.3	71.6	0.45	83.7	11.1	62.8	5H
881641	[(YR"S"(R)X MEXIFER)X PROBRAND771]X[(CLE	826/11	HRS	61.7	70.0	0.46	81.5	9.9	64.0	7M
881642	(CLEO X INIA66) X YR	826/17	HRS	61.6	68.8	0.38	84.4	10.4	65.5	4M
881643	(((CHAMBORD X ANZA)X(NUDIFTP250 X 166)	826/20	HRS	62.0	68.8	0.38	84.4	10.0	63.8	7M
881644	" " " "	826/21	HRS	62.2	69.9	0.36	86.6	9.9	64.6	7M
881645	TADIMIA	826/22	HRS	63.9	70.9	0.39	86.0	9.2	62.3	3M
881646	ANZA	826/23	HRS	62.5	69.1	0.36	85.8	8.8	62.0	2M
881647	YECORA ROJO	826/24	HRS	62.3	70.7	0.38	86.4	12.3	66.0	5H
881648	UC638	826/25	HRS	63.3	66.8	0.43	79.7	9.0	64.8	3M
881649	UC683	826/26	HRS	63.9	72.8	0.45	85.0	9.8	64.0	8M
881650	YOLO	826/27	HRS	62.2	70.4	0.42	84.0	9.2	62.7	3M
881651	INIA 66R	826/28	HRS	63.0	70.2	0.30	90.0	11.1	65.8	5H
881652	(((CHAMBORD X ANZA)X(NUDIFTP250 X 166))X I	826/32	HRS	61.8	68.0	0.29	88.3	9.8	64.0	7M
881653	(TADORNA X 166)X 166R) X YR	826/34	HRS	63.2	66.7	0.29	87.0	10.3	61.2	4M
881654	" " " "	826/35	HRS	62.0	66.9	0.30	86.6	10.9	61.8	8M
881655	CM59173-ID-ID X YR	826/37	SRS	62.7	63.2	0.29	83.3	10.7	61.7	8M
881656	(NUDIFTP250 X 166)X(TADORNA X 166))X YR	826/41	HRS	63.3	67.7	0.29	88.0	9.6	63.1	4M
881657	" " " "	826/42	HRS	62.1	68.1	0.31	87.3	10.5	64.3	6M
881658	" " " "	826/43	HRS	63.3	68.1	0.29	88.4	10.5	64.0	6M
881659	" " " "	826/44	HRS	64.4	70.4	0.29	90.8	10.2	63.7	4M

1/ Observed values corrected to 14% moisture basis.

3/ Absorption at 14% moisture corrected to 10% protein.

4/ Observed values corrected to 10% protein.

5/ Particularly promising overall quality characteristics.

6/ Promising overall quality characteristics.

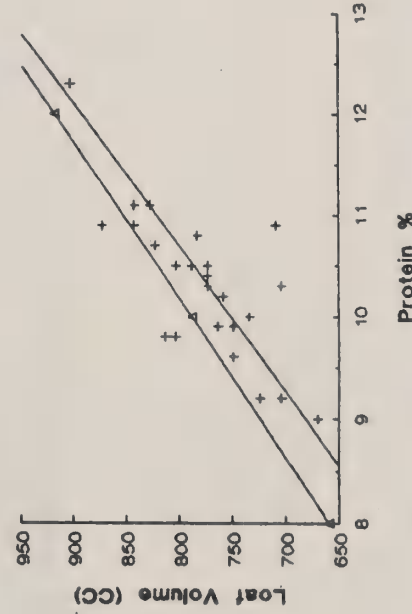
NURSCO 53

DAVIS, CA

C.O. QUALSET

LABNUM	VARIETY	IDNO	CLASS	BABS 1/	BABSC 3/	MTIME	LVOL	LVOLC 4/	BCRGR	RHKS
881634	[(TADORNA X 166)X YR]X[(TADORNA X 166)X	826/1	HRS	65.3	64.4	2.8	845	789	4	Q-BCRGR
881635	" " " "	826/2	HRS	65.7	65.2	3.0	790	759	6	Q-LVOL, Q-BCRGR
881636	[(VEERY'S" X PROBRAND771)X[(TADORNA X 166	826/3	HRS	66.6	66.1	2.5	775	744	8	Q-FYELD, P-LVOL, P-BCRGR
881637	" " " "	826/4	HRS	64.7	63.9	2.7	785	735	7	Q-FYELD, P-LVOL, P-BCRGR
881638	[(JILQUERO'S X 166)X PROBRAND771]X[(TAD	826/5	HRS	64.2	63.9	3.3	775	756	8	P-LVOL, P-BCRGR
881639	SHASTA	826/6	HRS	64.7	63.8	1.9	710	654	8	
881640	KLASIC	826/7	HWS	65.6	64.5	3.9	845	777	4	
881641	[(YR"S"(R)X MEXIFER)X PROBRAND771]X[(CLE	826/11	HRS	65.6	65.7	3.2	750	756	6	Q-MSCOR, Q-LVOL, Q-BCRGR
881642	(CLEO X INIA66) X YR	826/17	HRS	67.6	67.2	2.2	775	750	7	Q-FYELD, P-MTIME, Q-LVOL, P-BCRGR
881643	(((CHAMBORD X ANZA)X(NUDIFTP250 X 166)	826/20	HRS	65.5	65.5	2.8	735	735	7	Q-FYELD, P-LVOL, P-BCRGR
881644	" " " "	826/21	HRS	66.2	66.3	3.0	765	771	7	Q-LVOL, P-BCRGR
881645	TADIMIA	826/22	HRS	62.2	63.0	2.0	705	755	8	P-MTIME, Q-LVOL, P-BCRGR
881646	ANZA	826/23	HRS	61.5	62.7	1.6	570	644	9	
881647	YECORA ROJO	826/24	HRS	69.5	70.2	3.2	905	948	4	
881648	UC638	826/25	HRS	64.5	65.5	1.9	670	732	6	P-FYELD, P-MTIME, P-LVOL, Q-BCRGR
881649	UC683	826/26	HRS	65.5	65.7	3.5	815	827	5	Q-BCRGR
881650	YOLO	826/27	HRS	62.6	63.4	1.8	725	775	8	
881651	INIA 66R	826/28	HRS	68.6	67.5	2.9	830	762	4	
881652	(((CHAMBORD X ANZA)XNUDIFTP250 X 166))X I	826/32	HRS	65.5	65.7	2.4	805	817	5	Q-FYELD, Q-BCRGR
881653	((TADORNA X 166)X 166R) X YR	826/34	HRS	63.2	62.9	2.6	705	686	5	P-FYELD, P-LVOL, Q-BCRGR
881654	" " " "	826/35	HRS	64.4	63.5	3.5	875	819	3	P-FYELD
881655	CH59173-ID-ID X YR	826/37	SRS	64.1	63.4	3.8	825	782	5	VP-FYELD, Q-BCRGR
881656	(NUDIFTP250 X 166)X(TADORNA X 166))X YR	826/41	HRS	64.4	64.8	2.2	750	775	8	P-FYELD, P-MTIME, P-BCRGR
881657	" " " "	826/42	HRS	67.5	67.0	2.8	775	744	7	Q-FYELD, P-LVOL, P-BCRGR
881658	" " " "	826/43	HRS	66.2	65.7	2.8	805	774	6	Q-FYELD, Q-BCRGR
881659	" " " "	826/44	HRS	64.6	64.4	1.9	760	748	8	P-MTIME, Q-LVOL, P-BCRGR

LOAF VOLUME VS PROTEIN



COMMENTS: This nursery averaged 10% flour protein. The major deficiencies of this nursery were poor to questionable flour yield, poor loaf volume and questionable to poor bread crumb grain. Nearly all loaf volumes were under that expected for their flour protein levels. When selections were compared to the checks, this was taken into account.

NURSCO 54

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
881660 MCKAY		88SPHRE 1	HRS	58.9	68.0	0.37	78.9	12.6	67.1	6H
881661 BORAH		88SPHRE 2	HRS	58.9	69.6	0.35	80.7	12.3	66.1	5H
881662 BRONZE CHIEF		88SPHRE 3	HRS	57.3	69.3	0.38	79.8	13.8	68.0	5H
881663 KODIAK		88SPHRE 4	HRS	54.5	68.7	0.34	81.7	12.7	68.3	6H
881664 WESTBRED		88SPHRE 5	HRS	60.3	69.5	0.41	78.9	12.6	66.3	5H
881665 YECORA ROJO		88SPHRE 6	HRS	62.4	69.3	0.36	81.2	12.5	66.4	5H
881666 SPILLMAN		88SPHRE 7	HRS	58.9	69.7	0.42	79.3	12.2	66.7	3H
881667 OR 485008		5/ 88SPHRE 8	HRS	61.0	68.8	0.35	81.6	11.6	67.5	4H
881668 OR 485010		88SPHRE 10	HRS	61.5	68.3	0.47	74.1	11.5	66.0	5H
881669 OR 487006		88SPHRE 16	HRS	61.5	69.8	0.43	79.5	12.7	68.6	6H
881670 ALP850017		88SPHRE 17	HRS	63.3	70.1	0.42	79.2	12.0	66.6	5H
881671 MPC851034		88SPHRE 19	HRS	61.4	69.3	0.33	82.9	11.1	68.2	6M
881672 MPC850669		88SPHRE 20	HRS	62.7	67.5	0.40	76.5	12.2	68.4	3H
881673 MSN850055		6/ 88SPHRE 21	HRS	62.9	69.7	0.36	82.8	11.3	67.7	4H
881674 MSN850206		6/ 88SPHRE 22	HRS	59.9	68.2	0.37	78.9	12.2	66.1	5H
881675 MPC850308		6/ 88SPHRE 28	HRS	59.7	68.8	0.48	74.8	12.7	70.2	7H
881676 MPC850963		88SPHRE 29	HRS	60.9	67.9	0.36	79.2	12.2	67.1	6H
881677 MPC851007		88SPHRE 30	HRS	62.5	68.0	0.38	77.8	11.6	68.4	5H
881678 MPC851009		88SPHRE 31	HRS	62.9	66.9	0.39	74.9	11.4	68.4	5H

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 12% Protein

4/ Observed Values Corrected to 12% Protein

5/

Particularly Promising Overall Quality Characteristics

6/

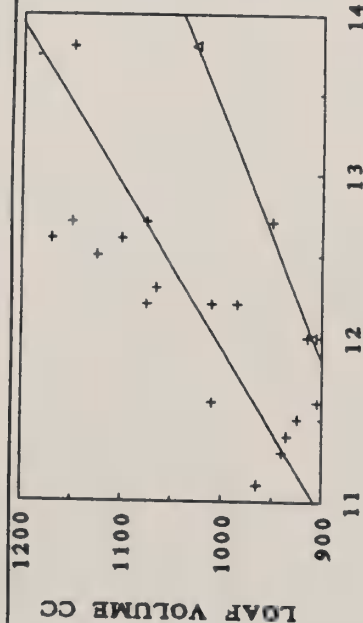
Promising Overall Quality Characteristics

NURSCO 54

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					3/			4/		
881660 MCKAY		88SPHRE 1	HRS	67.4	66.8	6.4	1170	1133	1	
881661 BORAH		88SPHRE 2	HRS	67.1	66.8	4.0	1065	1046	2	
881662 BRONZE CHIEF		88SPHRE 3	HRS	69.5	67.7	5.1	1150	1038	1	
881663 KODIAK		88SPHRE 4	HRS	68.7	68.0	6.2	1150	1107	1	
881664 WESTBRED		88SPHRE 5	HRS	67.6	67.0	3.5	1100	1063	2	
881665 YECORA ROJO		88SPHRE 6	HRS	67.6	67.1	4.2	1125	1094	1	
881666 SPILLMAN		88SPHRE 7	HRS	67.6	67.4	3.4	1075	1063	2	
881667 OR 485008		88SPHRE 8	HRS	67.8	68.2	3.3	1010	1035	2	
881668 OR 485010		88SPHRE 10	HRS	66.2	66.7	4.4	925	956	2	Q-MSCOR, LVOL
881669 OR 487006		88SPHRE 16	HRS	70.0	69.3	5.4	950	907	2	Q-LVOL
881670 ALP850017		88SPHRE 17	HRS	67.3	67.3	4.1	915	915	2	Q-LVOL
881671 MPC851034		88SPHRE 19	HRS	65.5	66.4	2.8	965	1021	4	Q-BCRGR
881672 MPC850669		88SPHRE 20	HRS	69.3	69.1	3.3	1010	998	2	Q-FYELD
881673 MSN850055		88SPHRE 21	HRS	66.2	66.9	3.4	940	983	2	
881674 MSN850206		88SPHRE 22	HRS	66.5	66.3	4.4	985	973	2	
881675 MPC850308		88SPHRE 28	HRS	71.1	70.4	7.7	1075	1032	2	Q-MSCOR
881676 MPC850963		88SPHRE 29	HRS	67.5	67.3	5.2	1010	998	3	
881677 MPC851007		88SPHRE 30	HRS	68.2	68.6	3.4	905	930	2	Q-LVOL, MSCOR
881678 MPC851009		88SPHRE 31	HRS	68.0	68.6	3.7	935	972	3	P-FYELD



COMMENTS: As benchmarked by the seven commercial check varieties, this nursery was poorer than expected in flour yields but better than expected in bread baking (loaf volume, see plot). The experimental lines were judged according to the check varieties. Those footnoted are quite good.

PROTEIN %

+ EXP CROSSES Δ EXPECTED

NURSCO 55

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
881679 MCKAY		88SPHWE 1	HRS	59.9	67.2	0.36	76.1	11.8	63.7	5H
881680 BORAH		88SPHWE 2	HRS	61.5	69.5	0.36	80.9	12.1	64.1	4H
881681 OR484013		88SPHWE 3	HWS	63.8	68.7	0.38	78.6	10.3	64.4	4H
881682 PAVON		88SPHWE 4	HWS	64.9	66.5	0.38	74.4	10.0	62.0	4M
881683 MPC850054		88SPHWE 6	HWS	65.6	68.6	0.39	77.0	11.5	62.3	3H
881684 MPC850120		88SPHWE 7	HWS	63.5	67.5	0.40	75.7	11.9	62.2	3H
881685 MPC850213		6/ 88SPHWE 8	HWS	63.2	71.0	0.41	81.3	12.1	64.0	3H
881686 MPC850491		88SPHWE 9	HWS	60.5	69.0	0.52	72.3	11.2	61.4	2H
881687 MPC850751		88SPHWE 11	HWS	65.4	68.8	0.44	76.0	10.2	63.2	4M
881688 MPC851107		88SPHWE 12	HWS	64.7	67.5	0.44	73.9	10.5	62.2	3M
881689 MPC850712		88SPHWE 13	HWS	63.0	68.2	0.52	71.8	12.8	62.3	3H
881690 NAC0ZARI		88SPHWE 15	HWS	60.0	66.6	0.39	74.5	12.0	64.7	3H
881691 MSN850046		88SPHWE 17	HWS	60.8	65.9	0.42	71.4	10.7	66.0	8M
881692 PC790647		88SPHWE 19	SWS	62.6	69.4	0.35	83.1	9.5	58.8	2M

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 11% Protein

4/ Observed Values Corrected to 11% Protein

5/

Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

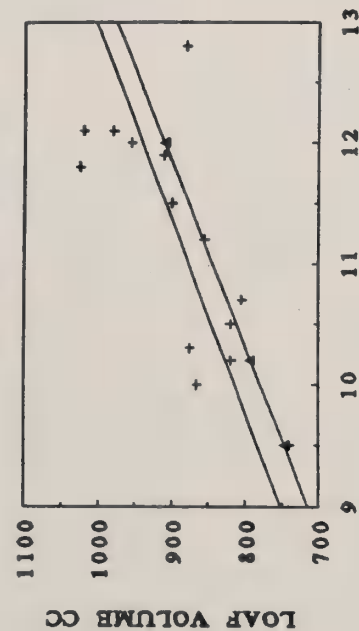
MURSCO 55

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					<u>3/</u>			<u>4/</u>		
881679 MCKAY		88SPHWE 1	HRS	65.2	64.4	4.5	1025	975	1	
881680 BORAH		88SPHWE 2	HRS	65.9	64.8	3.3	980	912	2	
881681 OR484013		88SPHWE 3	HWS	64.4	65.1	3.6	875	918	4	Q-BCRGR
881682 PAVON		88SPHWE 4	HWS	61.2	62.2	2.8	865	927	8	P-FYELD,BCRGR
881683 MPC850054		88SPHWE 6	HWS	63.5	63.0	2.9	900	869	5	Q-BCRGR
881684 MPC850120		88SPHWE 7	HWS	64.3	63.4	2.9	910	854	6	Q-FYELD,BCRGR
881685 MPC850213		88SPHWE 8	HWS	65.8	64.7	3.3	1020	952	3	
881686 MPC850491		88SPHWE 9	HWS	62.3	62.1	2.1	855	843	8	P-BCRGR,MTIME
881687 MPC850751		88SPHWE 11	HWS	63.1	63.9	2.8	820	870	8	P-BCRGR
881688 MPC851107		88SPHWE 12	HWS	62.4	62.9	2.5	820	851	8	P-BCRGR,Q-FYELD
881689 MPC850712		88SPHWE 13	HWS	64.8	63.0	2.9	880	768	6	P-LVOL,BCRGR
881690 NAC0ZARI		88SPHWE 15	HWS	66.4	65.4	3.2	955	893	7	P-FYELD,BCRGR
881691 MSN850046		88SPHWE 17	HWS	66.4	66.7	4.4	805	824	6	P-FYELD,LVOL,BCRGR
881692 PC790647		88SPHWE 19	SWS	67.0	68.5	1.7	740	830	9	P-MTIME,LVOL,BCRGR

LOAF VOLUME VS PROTEIN
HWS ELITE YIELD TRIAL



PROTEIN %

+ EXP CROSSES Δ EXPECTED

COMMENTS: Selection MPC850213 appears to be the only selection in the group of hard white spring wheats. All were below expected performance in milling properties including the checks. Most common problem with all of them the poor bread grain structure (See "Remarks"). The loaf volume was excellent on most as shown in the accompanied plot. Note that PC790647 is a soft textured wheat.

NURSCO 56

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH 1/	MSCOR	FPROT 1/	MABS	MABSC 3/
881693 OMENS		88SPSWE 1	SWS	60.7	68.5	0.37	77.3	9.0	55.6	55.6
881694 TWIN		88SPSWE 2	SWS	60.3	68.5	0.42	75.8	8.6	54.1	54.5
881695 DIRKWIN		88SPSWE 3	SWS	60.8	72.1	0.41	82.2	7.9	52.3	53.4
881696 EDWALL		88SPSWE 4	SWS	61.9	70.7	0.37	81.4	7.6	53.3	54.7
881697 FIELDWIN		88SPSWE 5	SWS	63.3	69.8	0.34	81.5	8.1	53.3	54.2
881698 ORS 8501		6/ 88SPSWE 7	SWS	64.0	70.8	0.31	85.9	8.2	54.6	55.4
881699 ORS 8427		5/ 88SPSWE 8	SWS	64.0	71.3	0.36	83.6	9.7	57.8	57.1
881700 OR 487503		6/ 88SPSWE 9	SWS	62.5	71.4	0.38	81.8	9.8	56.7	55.9
881701 OR 487570		6/ 88SPSWE 10	SWS	62.5	70.9	0.39	80.8	9.0	55.4	55.4
881702 OR 487316		6/ 88SPSWE 11	SWS	64.0	68.4	0.37	77.8	8.6	54.8	55.2
881703 TONICHI		6/ 88SPSWE 12	SWS	61.7	70.9	0.36	81.5	9.3	55.2	54.9

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 9% Protein

4/ Observed Values Corrected to 9% Protein

5/

Particularly Promising Overall Quality Characteristics

6/

Promising Overall Quality Characteristics

NURSCO 56

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	MTYPE	COOI	COIC 4/	CAVOL	SCSOR	WTIN	NOSCOR
881693 OWENS		88SPSWE 1	SWS	2M	9.26	9.26	1330	78.0	350	74
881694 TWIN		88SPSWE 2	SWS	1L	9.29	9.24	1335	77.0	353	74
881695 DIRKWIN		88SPSWE 3	SWS	1L	9.14	9.02	1315	77.0	365	78
881696 EDWALL		88SPSWE 4	SWS	2L	8.92	8.77	1340	79.0	362	78
881697 FIELDWIN		88SPSWE 5	SWS	2L	8.96	8.86	1300	77.0	360	73
881698 ORS 8501		88SPSWE 7	SWS	2L	8.94	8.85	1265	76.0	350	78
881699 ORS 8427		88SPSWE 8	SWS	4M	9.20	9.28	1370	80.0	352	72
881700 OW 487503		88SPSWE 9	SWS	3M	8.95	9.04	1340	76.0	344	72
881701 OW 487570		88SPSWE 10	SWS	2M	9.02	9.02	1360	77.0	352	74
881702 OR 487316		88SPSWE 11	SWS	1L	9.21	9.17	1365	76.0	348	78
881703 TONICHI		88SPSWE 12	SWS	2M	9.00	9.03	1360	78.0	342	76

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

SWS ELITE YIELD TRIAL

Cont'd PAGE 1

MURSCO 56

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC <u>3/</u>	MTIME	LVOL	LVOLC <u>4/</u>	BCRGR	RMKS
881693 OWENS		88SPSWE 1	SWS							
881694 TWIN		88SPSWE 2	SWS							
881695 DIRKWIN		88SPSWE 3	SWS							
881696 EDWALL		88SPSWE 4	SWS							
881697 FIELDWIN		88SPSWE 5	SWS							
881698 ORS 8501		88SPSWE 7	SWS							
881699 ORS 8427		88SPSWE 8	SWS	56.0	55.3	2.1	960	918	4	Q-NOSCOR
881700 OR 487503		88SPSWE 9	SWS	56.9	56.1	2.4	965	917	5	Q-NOSCOR
881701 OR 487570		88SPSWE 10	SWS							
881702 OR 487316		88SPSWE 11	SWS							Q-FYELD,=OWENS
881703 TONICHI		88SPSWE 12	SWS							

COMMENTS: Selections #8 and 9 had strong dough mixing properties so a bread test was also conducted. They have excellent volume, but were poorer in crumb structure (not uncommon for the low protein). They do have "some" dual purpose characteristics, but too short in dough development to be seriously considered. Selection #8 was outstanding in both cookie and cake.

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

HRW ELITE YT

W.E. KRONSTAD

PENDLETON, OR

NURSCO 57

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
881704 WANSER		88HRELT 1	HRW	62.8	70.6	0.40	79.9	11.8	62.9	4M
881705 HATTON		88HRELT 4	HRW	64.5	69.1	0.40	78.0	11.2	62.2	4H
881706 BATUM		88HRELT 5	HRW	60.4	70.3	0.37	83.2	7.2	57.9	3L
881707 ANDREW		88HRELT 6	HRW	63.0	68.4	0.37	80.4	8.0	61.0	7L
881708 SURVIVOR		88HRELT 7	HRW	62.1	65.8	0.41	71.8	8.6	62.1	5M
881709 OR: CR8313		88HRELT 8	HRW	64.7	66.3	0.39	75.3	7.5	64.2	8L
881710 OR CR8414		88HRELT 9	HRW	64.4	65.4	0.44	70.8	7.8	62.6	6L
881711 TSN-B2		88HRELT 10	HRW	63.1	67.1	0.41	75.2	7.7	62.4	8L
881712 OR CR8601		88HRELT 11	HRW	65.5	67.6	0.40	76.4	8.7	60.9	6L
881713 OR CR8602		88HRELT 12	HRW	62.6	65.1	0.42	71.6	7.5	63.1	8L
881714 OR CR8603		88HRELT 13	HRW	63.5	64.3	0.42	68.0	8.8	60.4	4M
881715 OR CR8604		88HRELT 14	HRW	64.2	64.1	0.42	69.6	8.6	64.3	6L
881716 OR CR8608		88HRELT 15	HRW	64.2	65.8	0.38	73.4	8.9	62.8	5M
881717 OR CR8718		6/ 88HRELT 16	HRW	62.5	68.9	0.40	77.8	12.1	62.8	5H
881718 OR 8300027		88HRELT 17	HRW	62.1	66.2	0.38	75.6	12.5	60.5	3H
881719 OR 8300282		88HRELT 18	HRW	60.7	64.8	0.41	71.3	11.4	60.9	3M
881720 OR 8301134		6/ 88HRELT 19	HRW	63.8	67.1	0.37	77.1	11.1	62.2	4H
881721 OR 8301455		88HRELT 20	HRW	59.8	61.1	0.42	64.4	11.1	61.1	4M
881722 OR 8302306		6/ 88HRELT 21	HRW	61.1	69.2	0.41	79.2	10.9	60.1	3M
881723 OR 8400027P		88HRELT 22	HRW	62.2	69.3	0.41	78.6	9.8	59.6	2M
881724 OR 8400214H		88HRELT 24	HRW	63.9	68.2	0.41	77.9	9.3	61.3	5M
881725 OR 8401708P		88HRELT 25	HRW	60.4	67.3	0.47	72.4	7.8	60.2	3L

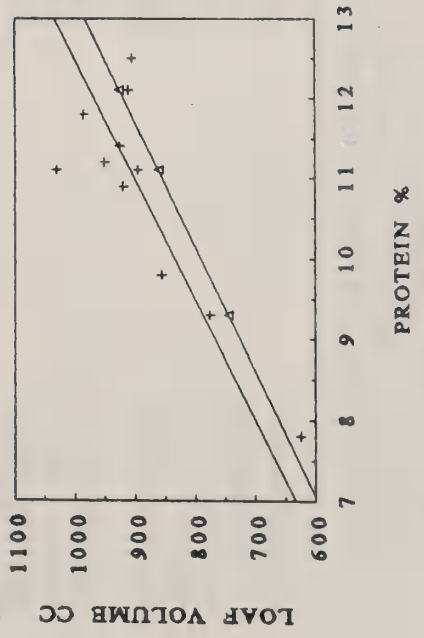
- 1/ Observed Values Corrected to 14% Moisture Basis
3/ Absorption at 14% Moisture Corrected to 10% Protein
4/ Observed Values Corrected to 10% Protein
5/ Particularly Promising Overall Quality Characteristics
6/ Promising Overall Quality Characteristics

W.E. KRONSTAD

PENDLETON, ID

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LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					3/			4/		
881704 WANSE		88HREL 1	HRW	66.4	63.6	4.4	985	811	2	
881705 HATTON		88HREL 4	HRW	65.1	62.9	3.6	950	814	2	
881706 BATUM		88HREL 5	HRW	No Bread Bakes - Too Low Protein						
881707 ANDREW		88HREL 6	HRW	"						
881708 SURVIVOR		88HREL 7	HRW	"						
881709 OR CR8313		88HREL 8	HRW	"						
881710 OR CR8414		88HREL 9	HRW	"						
881711 TSN-B2		88HREL 10	HRW	"						
881712 OR CR8601		88HREL 11	HRW	"						
881713 OR CR8602		88HREL 12	HRW	"						
881714 OR CR8603		88HREL 13	HRW	"						
881715 OR CR8604		88HREL 14	HRW	"						
881716 OR CR8608		88HREL 15	HRW	"						
881717 OR CR8718		88HREL 16	HRW	66.6	63.5	4.8	910	718	4	Q-BCRGR
881718 OR 8300027		88HREL 17	HRW	64.7	61.2	2.8	905	688	5	P-FYELD
881719 OR 8300282		88HREL 18	HRW	63.0	60.6	2.2	925	776	6	P-FYELD, Q-BCRGR
881720 OR 8301134		88HREL 19	HRW	65.0	62.9	3.0	1030	900	2	Q-FYELD, Excellent Baking
881721 OR 8301455		88HREL 20	HRW	63.9	61.8	3.0	895	765	6	VP-FYELD,BCRGR
881722 OR 8302306		88HREL 21	HRW	61.7	59.8	2.4	920	802	5	Q-BCRGR
881723 OR 8400027P		88HREL 22	HRW	60.1	59.3	2.0	855	805	7	P-BCRGR
881724 OR 8400214H		88HREL 24	HRW	62.3	62.0	3.5	775	756	9	P-BCRGR
881725 OR 8401708P		88HREL 25	HRW	58.7	59.9	2.3	625	699	9	P-FYELD,BCRGR



COMMENTS: Note that selections #6-15 were not bake tested because of the very low protein content. The remaining selections had some marginal to poor qualities for flour yield and bread crumb structure. All were above expected levels in loaf volume (See Plot).

NURSCO 58

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	CODI
881726 STEPHENS		88SWELT 1	SNW	54.5	68.7	0.46	71.9	13.4	60.2	8.61
881727 HILL		88SWELT 2	SNW	58.4	70.8	0.42	80.1	13.7	61.2	8.45
881728 MALCOLM		88SWELT 3	SNW	56.8	69.3	0.42	75.1	12.6	60.7	8.48
881729 OVESON		88SWELT 4	SNW	60.5	69.7	0.40	78.4	12.6	60.7	8.37
881730 DUSTY		88SWELT 5	SNW	60.7	68.2	0.34	79.0	13.6	64.4	8.57
881731 TRES		88SWELT 6	CLUB	61.8	69.9	0.38	80.3	12.4	58.1	8.50
881732 CREW		88SWELT 7	CLUB	60.5	71.5	0.36	83.1	12.0	58.1	8.56
881733 OR 855		6/88SWELT 9	CLUB	63.0	73.0	0.31	89.5	11.1	57.6	9.04
881734 BASIN		88SWELT 10	SNW	60.4	69.7	0.35	82.1	10.3	60.8	8.76
881735 CASHUP		88SWELT 11	SNW	62.3	71.2	0.31	85.1	10.8	59.4	9.16
881736 TRES+TYEE		6/88SWELT 12	CLUB	60.7	72.0	0.35	84.5	11.3	57.1	8.81
881737 OSU-21		88SWELT 13	SNW	60.3	68.5	0.32	81.7	11.1	58.4	8.62
881738 OSU-28		88SWELT 14	SNW	60.8	69.1	0.33	80.6	10.9	60.5	8.43
881739 OR CW8314		88SWELT 15	SNW	59.3	71.7	0.34	84.4	11.9	60.2	8.41
881740 OR CW8519		88SWELT 16	SNW	61.0	71.1	0.33	85.1	12.0	61.3	8.51
881741 OR CW8521		88SWELT 17	SNW	60.9	69.2	0.37	80.7	12.9	62.7	8.30
881742 OR CW8626		88SWELT 19	SNW	60.4	72.5	0.41	83.0	13.5	62.3	8.37
881743 OR CW8627		88SWELT 20	SNW	60.7	70.6	0.38	82.1	12.7	61.6	8.34
881744 OR CW8629		88SWELT 21	SNW	57.4	67.8	0.41	74.8	12.3	61.3	8.52
881745 OR CW8632		88SWELT 23	SNW	58.0	71.7	0.41	81.5	12.0	61.1	8.54
881746 OR 8300801		6/88SWELT 30	SNW	59.5	71.6	0.39	82.0	9.8	59.4	8.76
881747 OR 8302665		88SWELT 31	SNW	60.5	68.3	0.39	77.0	11.2	60.0	9.30
881748 OR 8302784		88SWELT 32	SNW	60.4	67.7	0.38	76.7	10.7	60.9	8.26
881749 OR 8303725		88SWELT 33	SNW	59.6	72.9	0.33	85.9	11.3	60.6	8.70
881750 OR 8303765		88SWELT 34	SNW	61.0	70.3	0.37	80.0	10.3	60.7	8.74
881751 OR8400814H		6/88SWELT 37	SNW	62.0	71.6	0.34	84.6	10.0	59.9	9.05
881752 OR8400815H		6/88SWELT 38	SNW	63.2	71.5	0.31	85.7	10.6	60.8	8.79
881753 OR8401073H		88SWELT 40	SNW	61.1	72.7	0.36	85.0	13.0	60.4	8.31
881754 OR8401386P		88SWELT 41	SNW	58.9	71.4	0.40	79.5	13.3	59.6	8.37
881755 OR8401438P		88SWELT 42	SNW	59.4	73.7	0.39	85.3	12.0	59.9	8.73

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 12% Protein

4/ Observed Values Corrected to 12% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

LABNUM	VARIETY	IDNO	CLASS	CODIC 4/	MTYPE	CAVOL	SCSOR	WTIN	NOSCOR	RMKS
881726 STEPHENS		88SWELT 1	SWW	8.77	2M	1185	59.0	345	70	
881727 HILL		88SWELT 2	SWW	8.64	1H	1245	68.0	368	71	
881728 MALCOLM		88SWELT 3	SWW	8.54	2M	1240	68.0	348	69	
881729 OVESON		88SWELT 4	SWW	8.44	4M	1200	66.0	333	71	
881730 DUSTY		88SWELT 5	SWW	8.75	2H	1310	76.0	338	72	
881731 TRES		88SWELT 6	CLUB	8.53	1M	1255	74.0	336	72	
881732 CREW		88SWELT 7	CLUB	8.56	1M	1260	71.0	337	72	
881733 OR 855		88SWELT 9	CLUB	8.97	2M	1240	71.0	334	72	
881734 BASIN		88SWELT 10	SWW	8.58	2M	1245	74.0	331	71	
881735 CASHUP		88SWELT 11	SWW	9.03	2M	1325	77.0	337	74	
881736 TRES+TYEE		88SWELT 12	CLUB	8.76	1M	1315	78.0	344	74	
881737 OSU-21		88SWELT 13	SWW	8.53	2M	1230	69.0	344	72	Q-FYELD
881738 OSU-28		88SWELT 14	SWW	8.30	3M	1200	67.0	317	70	Q-CODI, P-SCSOR
881739 OR CW8314		88SWELT 15	SWW	8.40	2M	1240	69.0	346	71	Q-CODI
881740 OR CW8519		88SWELT 16	SWW	8.51	3M	1235	72.0	350	74	
881741 OR CW8521		88SWELT 17	SWW	8.40	1H	1210	68.0	342	73	Q-SCSOR, Q-CODI
881742 OR CW8626		88SWELT 19	SWW	8.54	1H	1235	69.0	358	71	
881743 OR CW8627		88SWELT 20	SWW	8.41	2M	1195	70.0	335	70	
881744 OR CW8629		88SWELT 21	SWW	8.56	2M	1195	68.0	326	69	P-FYELD, Q-SCSOR, Q-NOSCOR
881745 OR CW8632		88SWELT 23	SWW	8.54	2M	1235	71.0	336	71	
881746 OR 8300801		88SWELT 30	SWW	8.52	2M	1305	78.0	344	77	
881747 OR 8302665		88SWELT 31	SWW	9.21	2M	1270	75.0	358	76	Q-FYELD
881748 OR 8302784		88SWELT 32	SWW	8.12	3M	1220	70.0	342	74	P-FYELD, VP-CODI
881749 OR 8303725		88SWELT 33	SWW	8.62	2M	1195	66.0	339	70	P-SCSOR
881750 OR 8303765		88SWELT 34	SWW	8.55	3M	1290	73.0	329	72	
881751 OR8400814H		88SWELT 37	SWW	8.83	2M	1295	74.0	346	76	
881752 OR8400815H		88SWELT 38	SWW	8.63	2M	1280	77.0	340	73	
881753 OR8401073H		88SWELT 40	SWW	8.42	2M	1195	69.0	352	72	Q-CODI, Q-SCSOR
881754 OR8401386P		88SWELT 41	SWW	8.52	2M	1145	66.0	354	71	Q-CODI, P-SCSOR
881755 OR8401438P		88SWELT 42	SWW	8.73	2M	1215	66.0	350	72	P-SCSOR

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

SWW ELITE YT

W.E. KRONSTAD

PENDLETON, OR

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LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	COOI
881756 OR8401464P		88SWELT 43	SWW	57.6	74.9	0.40	86.5	10.8	58.6	8.98

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PENDLETON, OR

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LABNUM	VARIETY	IDNO	CLASS	CODIC	MTYPE	CAVOL	SCSOR	WTIN	NOSCOR	RMKS
881756 OR8401464P		88SWELT 43 SWW	8.84	2M	1205	68.0	344	74	Q-SCSOR	

COMMENTS: The flour protein in this nursery averaged 12% which is higher than desirable for soft white and club wheat products. Quality characteristics of some selections were less affected by the higher flour protein than others. The higher flour protein resulted in the check varieties having abnormally low end-use quality. This made it difficult to compare the rest of the selections in the nursery.

NURSCO 59

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
881757 STEPHENS		88HRQN 1	SHW	60.4	72.1	0.38	88.5	9.6	54.5	2M
881758 YAMHILL		88HRQN 2	SHW	60.8	70.5	0.33	89.9	8.8	55.1	3L
881759 COLT		88HRQN 3	HRW	64.8	70.8	0.31	90.2	10.7	61.6	4M
881760 NORSTAR		88HRQN 4	HRW	64.8	73.1	0.30	93.1	9.9	58.5	8M
881761 CHEYENNE		88HRQN 5	HRW	65.6	73.0	0.32	91.9	11.9	62.9	5H
881762 ALCEDO		88HRQN 6	HRW	62.8	68.4	0.33	86.6	9.8	59.0	7M
881763 KS4578		6/ 88HRQN 7	HRW	63.6	73.5	0.39	88.7	12.1	58.7	3H
881764 OK81322		88HRQN 8	HRW	65.6	63.9	0.38	79.4	9.8	59.1	5M
881765 6158-19		88HRQN 9	HRW	65.2	71.8	0.32	90.7	8.9	57.6	8L
881766 AURIFEN		88HRQN 10	HRW	64.0	68.9	0.31	88.2	8.4	58.6	8L
881767 F2M8P-76-4H-1H		88HRQN 11	HRW	63.6	71.2	0.30	91.1	8.8	59.2	8L
881768 OR860128		88HRQN 12	HRW	63.6	71.3	0.33	89.7	9.5	57.7	4M
881769 KS831862		6/ 88HRQN 13	HRW	64.0	67.8	0.25	90.2	12.0	63.8	4H
881770 OR870227		6/ 88HRQN 14	HRW	65.2	70.1	0.32	88.9	10.7	57.8	4M
881771 KS831936-6		6/ 88HRQN 15	HRW	64.8	69.8	0.31	89.2	12.0	64.2	6H
881772 P102551		88HRQN 16	SRW	64.4	63.8	0.26	85.5	9.8	58.0	2M
881773 OR800012		88HRQN 17	SRW	64.8	69.9	0.31	90.1	8.4	54.7	2L
881774 DODGE		88HRQN 18	HRW	66.4	69.7	0.32	88.6	11.7	64.6	5H
881775 NORKAN		6/ 88HRQN 19	HRW	66.4	70.7	0.27	92.2	13.2	65.3	5H
881776 X8010-BULL#12		88HRQN 20	HRW	64.0	67.3	0.31	86.6	13.9	62.4	3H
881777 BK85180		88HRQN 21	HRW	66.0	65.8	0.33	84.0	8.9	61.9	8M
881778 BK85198		88HRQN 22	HRW	66.6	67.7	0.33	85.9	10.5	64.2	8M
881779 BK85010		88HRQN 23	HRW	65.6	68.2	0.30	88.0	8.8	61.7	6L
881780 BK85015		88HRQN 24	HRW	66.0	70.9	0.30	90.8	10.4	62.8	8M
881781 BK85035		88HRQN 25	HRW	66.4	66.0	0.37	82.1	9.7	63.5	8M
881782 BK85231		88HRQN 26	HRW	66.4	68.7	0.37	84.9	10.1	62.9	8M
881783 BK85223		88HRQN 27	HRW	66.4	66.7	0.32	85.4	12.3	63.7	6H
881784 BK85186		5/ 88HRQN 28	HRW	66.4	71.0	0.29	91.5	10.9	62.9	8M
881785 BK85099		88HRQN 29	HRW	65.6	65.3	0.48	75.7	10.5	62.3	4H
881786 BK85741		88HRQN 30	HRW	66.0	70.6	0.53	78.6	10.0	65.8	8M

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PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
881757 STEPHENS		88HRQN 1	SRW	52.8	53.2	1.4	710	734	9	
881758 YAMHILL		88HRQN 2	SRW	53.6	54.8	2.6	680	752	9	
881759 COLT		88HRQN 3	HRW	62.0	61.3	3.2	935	892	4	
881760 NORSTAR		88HRQN 4	HRW	58.1	58.2	4.4	910	916	4	
881761 CHEYENNE		88HRQN 5	HRW	66.5	64.6	4.0	925	807	3	
881762 ALCEDO		88HRQN 6	HRW	62.0	62.2	2.8	845	857	6	P-FYELD
881763 KS4578		88HRQN 7	HRW	62.5	60.4	2.5	925	795	3	
881764 OK81322		88HRQN 8	HRW	60.6	60.8	4.0	710	722	6	P-FYELD,BCRGR
881765 6158-19		88HRQN 9	HRW	58.2	59.3	3.6	610	678	8	P-LVOL,BCRGR
881766 AURIFEN		88HRQN 10	HRW	59.7	61.3	5.8	555	654	9	P-FYELD,LVOL,BCRGR
881767 F2M8P-76-4H-1H		88HRQN 11	HRW	59.7	60.9	5.4	675	749	8	P-BCRGR
881768 OR860128		88HRQN 12	HRW	58.9	59.4	2.9	725	756	8	P-BCRGR
881769 KS831862		88HRQN 13	HRW	67.5	65.5	3.3	890	766	2	Q-FYELD
881770 OR870227		88HRQN 14	HRW	60.2	59.5	2.9	865	822	3	Q-BCRGR
881771 KS831936-6		88HRQN 15	HRW	67.9	65.9	7.5	915	791	3	Q-BCRGR
881772 P102551		88HRQN 16	SRW	57.5	57.7	1.7	795	807	8	P-FYELD,MTIME,BCRGR
881773 OR800012		88HRQN 17	SRW	53.3	54.9	2.0	595	691	9	P-MTIME,LVOL,BCRGR
881774 DODGE		88HRQN 18	HRW	68.0	66.3	5.5	750	645	4	P-LVOL,Q-BCRGR
881775 NORKAN		88HRQN 19	HRW	69.2	66.0	4.4	960	762	3	
881776 X8010-BULL#12		88HRQN 20	HRW	67.0	63.1	2.9	980	738	3	Q-LVOL,BCRGR,FYELD
881777 BK85180		88HRQN 21	HRW	61.5	62.6	4.5	690	758	8	P-FYELD,BCRGR
881778 BK85198		88HRQN 22	HRW	66.4	65.9	7.9	715	684	6	P-FYELD,LVOL,BCRGR
881779 BK85010		88HRQN 23	HRW	62.2	63.4	5.4	570	644	9	Q-FYELD,P-LVOL,BCRGR
881780 BK85015		88HRQN 24	HRW	64.9	64.5	5.1	775	750	5	Q-BCRGR
881781 BK85035		88HRQN 25	HRW	64.9	65.2	5.2	700	719	6	P-FYELD,Q-BCRGR
881782 BK85231		88HRQN 26	HRW	64.7	64.6	6.9	665	659	5	Q-FYELD,LVOL,BCRGR
881783 BK85223		88HRQN 27	HRW	67.7	65.4	4.7	775	632	4	P-FYELD,LVOL,BCRGR
881784 BK85186		88HRQN 28	HRW	65.5	64.6	4.3	865	809	2	
881785 BK85099		88HRQN 29	HRW	64.5	64.0	3.7	720	689	6	P-FYELD,LVOL,BCRGR
881786 BK85741		88HRQN 30	HRW	67.5	67.5	6.3	760	760	3	P-MSCOR,Q-BCRGR

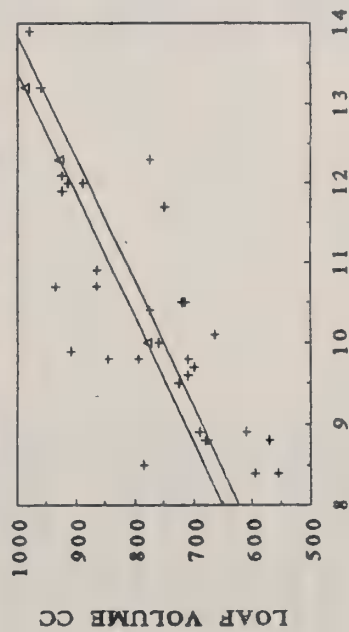
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PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
881787 TAM 108		88HRON 31	HRW	65.2	69.0	0.38	84.7	8.5	58.8	3L
LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	BCRGR	RMKS	
881787 TAM 108		88HRON 31	HRW	62.0	63.5	2.9	785	878	8	P-BCRGR

LOAF VOLUME VS PROTEIN
HARD RED WINTER CROSSING BLOCK



COMMENTS: Several of the selections in this nursery have problems with flour yield and/or bread baking properties. Selections BK85186 is noteworthy for its good overall quality. See "Remarks".

NURSCO 60

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
881788 WANSEER		88HRRAN 1	HRW	64.8	69.8	0.32	88.6	6.9	56.1	4L
881789 BATUM		88HRRAN 4	HRW	60.8	71.3	0.30	91.2	5.9	53.1	3L
881790 OR CR8313		6/88HRRAN 5	HRW	65.6	68.8	0.35	86.0	6.3	58.5	6L
881791 OR 8303372		88HRRAN 6	HRW	61.6	66.1	0.31	85.2	5.4	56.6	4L
881792 OR8400026P		6/88HRRAN 7	HRW	62.8	69.6	0.36	86.3	6.7	55.3	3L
881793 OR8400159P		6/88HRRAN 9	HRW	64.4	69.5	0.32	88.3	5.9	55.9	6L
881794 OR8400161P		6/88HRRAN 10	HRW	64.4	69.4	0.32	88.1	5.6	57.4	6L
881795 OR8401707P		6/88HRRAN 13	HRW	62.4	69.3	0.31	88.6	5.8	55.0	4L
881796 OR8401709P		88HRRAN 14	HRW	60.4	69.2	0.29	89.5	5.3	55.8	2L -Short
881797 OR8403309H		88HRRAN 15	HRW	65.6	67.1	0.30	86.8	6.4	55.6	6L
881798 OR8500046P		88HRRAN 16	HRW	64.8	67.3	0.32	85.9	7.1	53.9	5L
881799 OR8500111S		88HRRAN 17	HRW	64.4	64.6	0.33	82.6	7.8	55.0	6L
881800 OR8500115P		88HRRAN 18	HRW	64.8	65.4	0.32	84.0	7.6	55.8	6L
881801 OR8500493P		88HRRAN 22	HRW	66.0	64.0	0.35	80.9	7.5	56.6	6L
881802 OR8500497H		88HRRAN 24	HRW	66.0	65.3	0.32	83.8	6.9	57.7	6L
881803 OR8500509P		88HRRAN 25	HRW	65.6	62.4	0.39	77.2	7.0	59.4	4L
881804 OR8500511P		88HRRAN 26	HRW	66.4	62.5	0.37	78.3	7.2	59.7	4L
881805 OR8500563P		6/88HRRAN 28	HRW	64.0	68.3	0.32	87.0	6.8	56.4	3L
881806 OR8500608H		6/88HRRAN 29	HRW	62.4	68.0	0.31	87.2	6.3	54.8	3L
881807 OR8500617P		88HRRAN 30	HRW	65.6	65.9	0.34	83.5	6.9	54.9	4L
881808 OR8500416H		88HRRAN 21	HRW	64.8	65.5	0.33	83.6	6.8	56.0	3L
881809 OR8500694P		88HRRAN 33	HRW	62.8	63.4	0.34	80.8	5.4	63.1	4L
881810 OR8500695P		88HRRAN 34	HRW	62.8	64.7	0.36	81.2	6.7	60.1	4L
881811 OR8500696P		88HRRAN 35	HRW	64.0	63.7	0.34	81.1	6.7	60.4	4L
881812 OR8500704H		88HRRAN 36	HRW	65.6	64.7	0.35	81.7	6.9	58.9	4L
881813 OR8500075P		Q/88HRRAN 38	HRW	64.0	66.2	0.29	86.3	7.4	59.7	8L
881814 OR8500847P		Q/88HRRAN 40	HRW	63.6	66.9	0.30	86.6	6.2	56.4	8L
881815 OR8500919H		88HRRAN 41	HRW	66.0	65.4	0.36	81.9	7.0	60.7	6L
881816 OR8501018P		6/88HRRAN 42	HRW	62.0	67.9	0.28	88.7	6.0	55.8	3L
881817 OR8504344P		88HRRAN 44	HRW	64.4	64.1	0.28	84.7	7.0	56.9	3L

W.E. KRONSTAD

PENDLETON, OR

NURSCO 60

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
881818 OR8504896P		88HRRAN 46	HRW	66.5	66.0	0.31	85.1	5.9	59.0	6L
881819 OR8505289P		88HRRAN 47	HRW	63.2	65.6	0.35	82.6	6.1	56.9	4L
881820 OR8505424P		88HRRAN 48	HRW	64.4	65.6	0.31	84.7	6.4	58.5	4L

COMMENTS: With mutual agrument, these selections were not test baked due to the very low protein content. The milling data, however, should be useful to do some further selection, as there are many that are very unsatisfactory in milling quality. See the footnotes for the promising lines.

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

SWW REPLICATED ADVANCED NURSERY

W.E. KRONSTAD

PENDLETON, OR

NURSCO 61

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	CODI
881821 STEPHENS		88SWRAN 1	SWW	62.0	71.6	0.39	82.8	6.2	52.2	9.14
881822 HILL		88SWRAN 4	SWW	61.0	73.3	0.33	88.7	5.7	53.8	9.20
881823 MALCOLM		88SWRAN 7	SWW	62.0	71.6	0.36	83.9	6.7	54.6	8.87
881824 OR 813639		88SWRAN 11	SWW	61.9	73.0	0.31	89.6	6.4	51.9	9.09
881825 OR 8300058		88SWRAN 12	SWW	61.8	72.9	0.32	87.5	5.8	53.8	8.94
881826 OR 8300066		88SWRAN 13	SWW	62.0	72.4	0.35	84.6	6.0	55.2	8.79
881827 OR 8302288		88SWRAN 14	SWW	61.9	70.1	0.34	83.1	5.8	55.2	9.11
881828 OR8400838H		5/ 88SWRAN 16	SWW	60.6	74.2	0.36	88.2	6.9	53.3	9.24
881829 OR8401074P		88SWRAN 18	SWW	62.8	71.3	0.30	86.4	6.9	53.7	8.80
881830 OR8401286S		88SWRAN 19	SWW	58.0	70.8	0.37	80.4	5.3	54.9	9.02
881831 OR8401389H		6/ 88SWRAN 20	SWW	59.3	72.3	0.34	85.9	5.9	53.5	9.34
881832 OR8401439P		5/ 88SWRAN 21	SWW	59.7	73.5	0.36	87.2	5.8	53.0	9.21
881833 OR8401544P		88SWRAN 22	SWW	62.8	69.0	0.35	81.1	6.4	54.2	8.73
881834 OR8401866P		5/ 88SWRAN 24	SWW	59.3	73.3	0.36	87.0	6.2	53.7	9.05
881835 OR8401952S		6/ 88SWRAN 25	SWW	60.7	72.1	0.31	88.7	6.7	53.6	9.15
881836 OR8402961H		88SWRAN 27	SWW	61.2	67.6	0.42	73.3	6.2	55.5	8.62
881837 OR8403207H		88SWRAN 28	SWW	62.7	70.9	0.38	80.6	6.9	53.8	9.05
881838 OR8401096S		5/ 88SWRAN 30	SWW	60.1	74.6	0.38	87.3	6.2	52.4	9.20
881839 OR8503157H		88SWRAN 33	SWW	61.3	70.3	0.40	79.9	6.6	52.1	9.05
881840 OR8501141H		88SWRAN 34	SWW	61.9	71.9	0.35	85.6	5.9	54.5	9.11
881841 OR8505401P		88SWRAN 35	SWW	61.2	68.9	0.37	78.6	6.3	54.7	8.95
881842 OR8501163P		6/ 88SWRAN 40	SWW	60.9	73.9	0.38	86.0	5.8	53.7	9.15
881843 OR8502848H		88SWRAN 41	SWW	56.9	72.6	0.40	83.2	5.9	53.1	9.11
881844 OR8501139H		88SWRAN 42	SWW	62.2	72.9	0.37	85.8	6.7	52.6	9.23
881845 OR8501162P		88SWRAN 43	SWW	62.3	71.5	0.39	82.9	6.2	52.7	9.05
881846 OR8500906H		5/ 88SWRAN 44	SWW	61.5	72.4	0.36	85.4	5.3	51.0	9.32
881847 OR8501047P		88SWRAN 45	SWW	60.0	69.3	0.37	79.0	5.4	53.0	9.12
881848 OR8501005H		88SWRAN 46	SWW	61.2	68.0	0.41	73.4	5.4	53.8	8.96
881849 OR8507847P		88SWRAN 47	SWW	61.2	72.0	0.35	84.9	6.4	52.8	9.15
881850 OR8504301P		88SWRAN 48	SWW	61.8	73.1	0.34	86.3	6.9	52.7	9.25

1/ Observed Values Corrected to 14% Moisture Basis
3/ Absorption at 14% Moisture Corrected to 6% Protein
4/ Observed Values Corrected to 6% Protein
5/ Particularly Promising Overall Quality Characteristics
6/ Promising Overall Quality Characteristics

NURSCO 61

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	CODIC	MTYPE	CAVOL	SCSOR	WTIN	NOSCOR	RMKS
				4/						
881821 STEPHENS		88SWRAN 1	SWW	9.16	1L	1270	73.0	341	77	
881822 HILL		88SWRAN 4	SWW	9.17	1L	1290	77.0	318	76	
881823 MALCOLM		88SWRAN 7	SWW	8.95	1L	1265	75.0	339	75	
881824 OR 813639		88SWRAN 11	SWW	9.13	1L	1230	73.0	335	76	
881825 OR 8300058		88SWRAN 12	SWW	8.92	1L	1215	71.0	321	77	Q-SCSOR
881826 OR 8300066		88SWRAN 13	SWW	8.79	1L	1230	74.0	308	77	Q-CODI
881827 OR 8302288		88SWRAN 14	SWW	9.09	1L	1300	78.0	315	74	
881828 OR8400838H		88SWRAN 16	SWW	9.34	2L	1305	78.0	336	76	
881829 OR8401074P		88SWRAN 18	SWW	8.90	2L	1295	75.0	338	76	
881830 OR8401286S		88SWRAN 19	SWW	8.95	1L	1290	75.0	290	74	
881831 OR8401389H		88SWRAN 20	SWW	9.33	1L	1310	79.0	308	73	
881832 OR8401439P		88SWRAN 21	SWW	9.19	1L	1345	79.0	325	74	
881833 OR8401544P		88SWRAN 22	SWW	8.77	2L	1255	74.0	326	75	Q-FYELD, Q-CODI
881834 OR8401866P		88SWRAN 24	SWW	9.07	1L	1275	75.0	339	76	
881835 OR8401952S		88SWRAN 25	SWW	9.23	1L	1295	77.0	330	75	
881836 OR8402961H		88SWRAN 27	SWW	8.65	2L	1175	68.0	316	75	P-FYELD, P-CODI, P-SCSOR
881837 OR8403207H		88SWRAN 28	SWW	9.15	2L	1250	71.0	337	75	Q-SCSOR
881838 OR8401096S		88SWRAN 30	SWW	9.22	1L	1265	76.0	345	76	
881839 OR8503157H		88SWRAN 33	SWW	9.12	2L	1255	74.0	356	75	
881840 OR8501141H		88SWRAN 34	SWW	9.10	1L	1250	75.0	339	77	
881841 OR8505401P		88SWRAN 35	SWW	8.98	2L	1185	70.0	334	74	P-FYELD, P-SCSOR
881842 OR8501163P		88SWRAN 40	SWW	9.13	1L	1290	73.0	324	76	
881843 OR8502848H		88SWRAN 41	SWW	9.10	1L	1250	72.0	320	74	
881844 OR8501139H		88SWRAN 42	SWW	9.30	1L	1270	75.0	339	76	
881845 OR8501162P		88SWRAN 43	SWW	9.07	1L	1170	67.0	319	74	P-SCSOR
881846 OR8500906H		88SWRAN 44	SWW	9.25	1L	1335	81.0	301	74	
881847 OR8501047P		88SWRAN 45	SWW	9.06	2L	1180	67.0	300	73	Q-FYELD, P-SCSOR
881848 OR8501005H		88SWRAN 46	SWW	8.90	1L	1170	69.0	316	74	P-FYELD, P-SCSOR
881849 OR8507847P		88SWRAN 47	SWW	9.19	2L	1225	71.0	318	72	Q-SCSOR, P-NOSCOR
881850 OR8504301P		88SWRAN 48	SWW	9.35	5L	1265	76.0	307	71	P-NOSCOR

WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

SWW REPLICATED ADVANCED NURSERY

NURSCO 61

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	CODI
881851	OR8500583P	88SWRAN 49	SWW	62.5	69.8	0.37	80.1	7.0	53.8	9.06
881852	OR8503155H	88SWRAN 51	SWW	58.7	72.5	0.30	87.9	5.6	53.3	9.05
881853	OR8500933H	88SWRAN 54	SWW	60.7	69.7	0.31	83.1	5.9	54.5	9.16
881854	OR8501026H	88SWRAN 57	SWW	62.0	68.6	0.32	81.5	7.0	53.7	8.84
881855	OR8500594H	88SWRAN 58	SWW	62.5	69.7	0.31	83.1	7.2	54.4	8.90
881856	OR8501048P	88SWRAN 60	SWW	59.9	68.3	0.39	76.6	5.5	54.8	8.80
881857	OR 8303734	88SWRAN 15	SWW	60.8	73.1	0.33	88.7	6.1	53.2	9.16

WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

SWW REPLICATED ADVANCED NURSERY

NURSCO 61

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	COOIC	MTYPE	CAVOL	SCSOR	WTIN	NOSCOR	RMKS
881851 OR8500583P		88SWRAN 49	SWW	9.17	4L	1270	76.0	319	76	Q-FYELD
881852 OR8503155H		88SWRAN 51	SWW	9.01	1L	1275	74.0	317	75	
881853 OR8500933H		88SWRAN 54	SWW	9.15	4L	1230	73.0	330	77	Q-FYELD
881854 OR8501026H		88SWRAN 57	SWW	8.95	5L	1220	69.0	333	76	P-FYELD, P-SCSOR
881855 OR8500594H		88SWRAN 58	SWW	9.03	4L	1205	68.0	343	77	Q-FYELD, P-SCSOR
881856 OR8501048P		88SWRAN 60	SWW	8.74	1L	1195	69.0	324	74	P-FYELD, P-SCSOR
881857 OR 8303734		88SWRAN 15	SWW	9.17	5L	1240	72.0	329	74	

COMMENTS: The flour protein in this nursery averaged 6% which is quite low and which should have been an excellent

level for cookie spread and sponge cake quality. Some selections didn't have good cake volume and scores.

Cookie spread was generally quite satisfactory for most selections. Noodle scores were generally near that of the check varieties with a few exceptions. See remarks and footnotes.

W.E. KRONSTAD

MADRAS, OR

NURSCO 62

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
						<u>1/</u>		<u>1/</u>	<u>3/</u>	
881858 MCKAY		88SPHRA 1	HRS	64.0	72.5	0.33	90.9	10.0	63.0	8M
881859 BORAH		88SPHRA 2	HRS	64.0	72.5	0.33	90.9	11.4	60.9	2H
881860 WESTBRED		6/ 88SPHRA 3	HRS	64.0	72.0	0.38	87.8	12.0	61.7	3H
881861 MSN850079		6/ 88SPHRA 5	HRS	63.6	71.9	0.39	87.1	11.6	63.2	3H
881862 MPC850122		88SPHRA 6	HRS	64.4	68.7	0.39	83.7	10.4	61.2	3H
881863 MSN850145		88SPHRA 7	HRS	65.2	73.1	0.45	85.2	10.3	60.4	4M
881864 MPC850815		88SPHRA 24	HRS	64.4	73.3	0.45	85.4	10.2	57.7	2M
881865 MCKAY		6/ 88SPHUA 1	HRS	63.6	73.6	0.36	90.7	10.4	62.4	6M
881866 BORAH		88SPHUA 2	HRS	64.0	70.8	0.32	89.6	11.9	60.9	2H
881867 MPC850130		88SPHUA 3	HWS	65.6	72.0	0.34	89.9	11.3	62.5	3H
881868 MPC850791		6/ 88SPHUA 8	HWS	63.6	72.7	0.37	89.1	13.3	62.1	3H
881869 MPC850769		88SPHUA 9	HWS	64.0	73.6	0.36	90.5	12.5	61.0	3H
881870 MPC850710		88SPHUA 11	HWS	63.6	73.1	0.39	88.4	12.6	61.2	4M
881871 MPC850806		88SPHUA 13	HWS	63.2	72.6	0.38	88.3	10.5	64.1	6M

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 12% Protein

4/ Observed Values Corrected to 12% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

NURSCO 62

MADRAS, OR

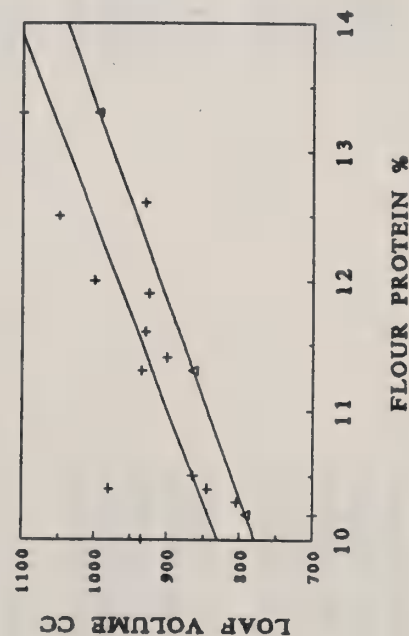
W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					<u>3/</u>			<u>4/</u>		
881858 MCKAY		88SPHRA 1	HRS	62.7	63.7	3.9	935	997	2	
881859 BORAH		88SPHRA 2	HRS	62.0	61.6	2.0	900	875	4	
881860 WESTBRED		88SPHRA 3	HRS	63.4	62.4	3.0	1000	938	2	
881861 MSN850079		88SPHRA 5	HRS	64.5	63.9	2.8	930	893	2	
881862 MPC850122		88SPHRA 6	HRS	61.3	61.9	2.2	845	882	6	Q-FYELD,BCRGR,MTIME
881863 MSN850145		88SPHRA 7	HRS	60.4	61.1	2.4	805	848	8	Q-MTIME,LVOL,BCRGR
881864 MPC850815		88SPHRA 24	HRS	57.6	58.4	1.7	700	750	9	P-MTIME,LVOL,BCRGR
881865 MCKAY		88SPHWA 1	HRS	62.5	63.1	3.7	980	1017	2	
881866 BORAH		88SPHWA 2	HRS	62.5	61.6	1.9	925	869	4	Q-MTIME,BCRGR,FYELD
881867 MPC850130		88SPHWA 3	HWS	63.5	63.2	2.6	935	916	5	Q-MTIME,BCRGR
881868 MPC850791		88SPHWA 8	HWS	65.1	62.8	2.8	1100	957	2	
881869 MPC850769		88SPHWA 9	HWS	63.2	61.7	2.3	1050	957	4	Q-BCRGR,MTIME
881870 MPC850710		88SPHWA 11	HWS	63.5	61.9	2.3	930	831	4	Q-BCRGR,MTIME
881871 MPC850806		88SPHWA 13	HWS	64.3	64.8	3.1	865	896	6	Q-BCRGR

LOAF VOLUME VS PROTEIN

HRS ADVANCED YT

+ EXP. SELECT Δ EXPECTED



COMMENTS: All of this nursery (including the "check" varieties) had better bread baking performance than expected for the protein content. Several, which are footnoted appear to have equal or better quality than McKay. See "Remarks" for deficiencies of the other selections.

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

HRW REPLICATED PRELIMINARY NURSERY

W.E. KRONSTAD

PENDLETON, OR

NURSCO 63

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
881872 WANSEER		88HRRPN 1	HRW	64.8	69.4	0.31	88.6	9.8	58.4	4M
881873 BATUM		88HRRPN 3	HRW	60.8	71.3	0.32	90.1	7.3	54.9	5L
881874 OR CR8313		88HRRPN 5	HRW	65.6	67.9	0.32	86.5	7.3	59.2	8L
881875 OR8400054P		88HRRPN 6	HRW	62.0	67.7	0.31	86.8	6.3	57.9	3L
881876 OR863547		88HRRPN 10	HRW	62.8	67.4	0.30	87.0	6.8	57.2	8L
881877 OR863550		88HRRPN 12	HRW	60.8	65.1	0.32	83.5	6.3	58.3	4L
881878 OR860006		88HRRPN 13	HRW	62.8	68.1	0.28	88.9	6.2	55.2	8L
881879 OR860007		88HRRPN 14	HRW	62.4	70.5	0.30	90.3	6.0	54.5	8L
881880 OR860008		88HRRPN 15	HRW	63.6	70.1	0.31	89.4	5.8	55.4	6L
881881 OR860056		88HRRPN 19	HRW	65.2	68.0	0.31	87.2	8.8	58.3	7M
881882 OR860058		88HRRPN 20	HRW	66.0	66.2	0.33	84.2	7.8	60.4	8M
881883 OR860067		88HRRPN 21	HRW	63.6	63.6	0.37	79.4	7.7	58.1	3L
881884 OR860077		88HRRPN 22	HRW	62.8	62.8	0.33	80.7	9.3	62.0	6M
881885 OR860084		88HRRPN 23	HRW	65.2	65.9	0.31	84.9	8.2	59.1	7L
881886 OR860085		88HRRPN 24	HRW	65.2	64.7	0.39	79.5	7.2	61.6	8L
881887 OR860122		88HRRPN 25	HRW	62.4	64.7	0.35	81.6	6.8	60.4	8L
881888 OR860123		88HRRPN 26	HRW	64.0	64.1	0.34	81.5	6.5	62.7	8L
881889 OR860128		88HRRPN 27	HRW	64.8	63.0	0.33	80.9	6.9	61.3	8L
881890 OR860139		88HRRPN 28	HRW	64.0	64.2	0.39	79.0	7.3	59.5	3L
881891 OR860189		88HRRPN 32	HRW	64.0	65.0	0.31	84.1	7.5	55.3	5L
881892 OR860207		88HRRPN 34	HRW	62.8	63.8	0.35	80.7	6.8	57.2	8L
881893 OR860246		88HRRPN 36	HRW	64.4	63.9	0.36	80.2	7.5	55.5	3L
881894 OR860247		88HRRPN 37	HRW	64.4	67.2	0.34	84.7	7.8	55.5	3L
881895 OR860248		88HRRPN 38	HRW	64.8	66.3	0.36	82.8	8.5	56.6	4L
881896 OR860252		88HRRPN 39	HRW	63.6	68.5	0.31	87.7	8.6	56.0	4M
881897 OR860254		88HRRPN 41	HRW	63.2	69.9	0.33	88.2	8.5	56.4	3M
881898 OR860255		88HRRPN 42	HRW	63.2	69.4	0.33	87.6	8.3	55.8	3L
881899 OR860268		88HRRPN 43	HRW	63.6	64.8	0.34	82.3	8.0	56.1	3L
881900 OR860273		88HRRPN 45	HRW	64.0	67.1	0.28	87.8	8.3	56.5	3M
881901 OR860342		88HRRPN 46	HRW	64.4	70.4	0.35	87.6	6.8	56.1	3L

1/ Observed Values Corrected to 14% Moisture Basis
3/ Absorption at 14% Moisture Corrected to 7% Protein
4/ Observed Values Corrected to 7% Protein
5/ Particularly Promising Overall Quality Characteristics
6/ Promising Overall Quality Characteristics

W.E. KRONSTAD

PENDLETON, OR

NURSCO 63

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					3/			4/		
881872 WANSE		88HRRPN 1	HRW	60.9	58.1	2.9	855	681	3	
881873 BATUM		88HRRPN 3	HRW	55.9	55.6	2.3	730	711	8	
881874 OR CR8313		88HRRPN 5	HRW							P-FYELD
881875 OR840054P		88HRRPN 6	HRW							P-FYELD
881876 OR863547		88HRRPN 10	HRW							P-FYELD
881877 OR863550		88HRRPN 12	HRW							VP-FYELD
881878 OR860006		88HRRPN 13	HRW							
881879 OR860007		88HRRPN 14	HRW							Q-FYELD
881880 OR860008		88HRRPN 15	HRW							
881881 OR860056		88HRRPN 19	HRW	60.8	59.0	2.9	680	568	9	Q-FYELD, P-LVOL, P-BCRGR
881882 OR860058		88HRRPN 20	HRW							
881883 OR860067		88HRRPN 21	HRW	61.9	61.1	4.2	610	560	9	P-FYELD, P-LVOL, P-BCRGR
881884 OR860077		88HRRPN 22	HRW	64.0	61.7	4.0	700	557	8	VP-FYELD
881885 OR860084		88HRRPN 23	HRW							VP-FYELD, P-LVOL, P-BCRGR
881886 OR860085		88HRRPN 24	HRW							VP-FYELD
881887 OR860122		88HRRPN 25	HRW							VP-FYELD
881888 OR860123		88HRRPN 26	HRW							VP-FYELD
881889 OR860128		88HRRPN 27	HRW							VP-FYELD
881890 OR860139		88HRRPN 28	HRW							VP-FYELD
881891 OR860189		88HRRPN 32	HRW							VP-FYELD
881892 OR860207		88HRRPN 34	HRW							VP-FYELD
881893 OR860246		88HRRPN 36	HRW							VP-FYELD
881894 OR860247		88HRRPN 37	HRW							P-FYELD
881895 OR860248		88HRRPN 38	HRW							P-FYELD
881896 OR860252		88HRRPN 39	HRW	58.3	56.7	2.5	665	566	9	P-FYELD, VP-LVOL, P-BCRGR
881897 OR860254		88HRRPN 41	HRW	58.6	57.1	2.1	720	627	8	P-LVOL, P-BCRGR
881898 OR860255		88HRRPN 42	HRW							
881899 OR860268		88HRRPN 43	HRW							VP-FYELD
881900 OR860273		88HRRPN 45	HRW	58.5	57.2	2.3	635	554	9	P-FYELD, P-LVOL, P-BCRGR
881901 OR860342		88HRRPN 46	HRW							

NURSCO 63

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	TWT	FYLD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
881902 OR860369		88HRRPN 48	HRW	64.4	65.8	0.32	84.4	7.1	56.3	3L
881903 OR860407		88HRRPN 49	HRW	64.4	66.1	0.27	87.3	7.2	58.4	4L
881904 OR860414		88HRRPN 50	HRW	65.6	68.5	0.35	85.7	7.5	55.2	3L
881905 OR860455		88HRRPN 51	HRW	61.6	70.1	0.32	89.0	6.4	54.5	3L
881906 OR860503		88HRRPN 53	HRW	62.8	64.0	0.31	83.1	8.2	54.6	3L
881907 OR860506		88HRRPN 54	HRW	61.6	67.1	0.37	83.1	6.3	56.1	4L
881908 OR860558		88HRRPN 56	HRW	63.6	69.8	0.31	89.1	6.1	56.9	3L
881909 OR860562		88HRRPN 57	HRW	61.2	69.8	0.34	87.5	6.2	57.2	3L
881910 OR860612		88HRRPN 58	HRW	60.4	68.0	0.25	90.4	7.2	54.6	2L
881911 OR860706		88HRRPN 59	HRW	62.8	68.3	0.36	85.0	6.8	56.2	3L
881912 OR860709		88HRRPN 60	HRW	64.0	67.1	0.32	85.7	7.7	56.9	2M
881913 OR860711		88HRRPN 61	HRW	64.0	66.8	0.32	85.4	7.8	55.6	2M
881914 OR860854		88HRRPN 62	HRW	63.6	64.3	0.27	85.6	8.0	54.0	2L
881915 OR860862		88HRRPN 65	HRW	65.2	67.6	0.32	86.2	6.2	57.6	4L
881916 OR860865		88HRRPN 66	HRW	63.6	64.7	0.20	89.5	7.9	55.3	2L
881917 OR860867		88HRRPN 67	HRW	64.0	66.0	0.33	84.0	6.5	57.5	3L
881918 OR860869		88HRRPN 68	HRW	64.4	66.5	0.31	85.6	6.8	54.5	4L
881919 OR860937		88HRRPN 71	HRW	62.0	68.8	0.28	89.6	6.6	53.4	2L
881920 OR861201		88HRRPN 73	HRW	63.6	66.7	0.35	83.8	6.0	58.0	8L
881921 OR861202		88HRRPN 74	HRW	62.4	66.3	0.37	82.3	5.9	55.9	6L
881922 OR861203		88HRRPN 75	HRW	62.0	65.6	0.25	87.8	5.8	56.5	8L
881923 OR861437		88HRRPN 76	HRW	60.0	68.9	0.31	88.1	6.2	52.9	8L
881924 OR861555		88HRRPN 77	HRW	60.8	66.3	0.22	90.1	5.5	55.7	8L
881925 OR860108		88HRRPN 78	HRW	59.6	64.2	0.35	81.1	6.5	59.1	8L

WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

HRW REPLICATED PRELIMINARY NURSERY

NURSCO 63

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					3/			4/		
881902	OR860369	88HRRPN 48	HRW							VP-FYELD
881903	OR860407	88HRRPN 49	HRW							VP-FYELD
881904	OR860414	88HRRPN 50	HRW							Q-FYELD
881905	OR860455	88HRRPN 51	HRW							VP-FYELD
881906	OR860503	88HRRPN 53	HRW							
881907	OR860506	88HRRPN 54	HRW							P-FYELD
881908	OR860558	88HRRPN 56	HRW							
881909	OR860562	88HRRPN 57	HRW							Q-FYELD
881910	OR860612	88HRRPN 58	HRW							Q-FYELD
881911	OR860706	88HRRPN 59	HRW							
881912	OR860709	88HRRPN 60	HRW							P-FYELD
881913	OR860711	88HRRPN 61	HRW							P-FYELD
881914	OR860854	88HRRPN 62	HRW							VP-FYELD
881915	OR860862	88HRRPN 65	HRW							P-FYELD
881916	OR860865	88HRRPN 66	HRW							VP-FYELD
881917	OR860867	88HRRPN 67	HRW							P-FYELD
881918	OR860869	88HRRPN 68	HRW							P-FYELD
881919	OR860937	88HRRPN 71	HRW							P-FYELD
881920	OR861201	88HRRPN 73	HRW							P-FYELD
881921	OR861202	88HRRPN 74	HRW							P-FYELD
881922	OR861203	88HRRPN 75	HRW							P-FYELD
881923	OR861437	88HRRPN 76	HRW							P-FYELD
881924	OR861555	88HRRPN 77	HRW							P-FYELD
881925	OR860108	88HRRPN 78	HRW							P-FYELD

COMMENTS: This nursery was very low in flour protein (average of 7%). Only a selected few were tested for bread baking due to the very low protein. These bread baking results may not be meaningful. The flour yields of this nursery for most selections were quite poor.

MURSCO 64

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
						<u>1/</u>		<u>1/</u>	<u>3/</u>	
881926 BATUM		88HWRPN 1	HRW	60.8	72.2	0.34	90.1	8.8	58.0	4M
881927 OR CW8423		88HWRPN 4	HW	61.6	72.0	0.27	93.5	9.2	56.7	3M
881928 OR CW8623		88HWRPN 5	HW	62.0	72.0	0.36	88.8	6.8	58.6	3L
881929 OR8402847H		88HWRPN 6	HW	64.8	70.2	0.34	88.0	9.1	57.3	3M
881930 OR8403032P		88HWRPN 7	HW	65.6	71.2	0.26	93.1	9.8	56.8	3M
881931 OR8400114P		88HWRPN 8	HW	60.4	68.5	0.44	80.9	9.1	57.5	1M
881932 OR8400115H		88HWRPN 9	HW	62.0	68.6	0.29	88.9	10.0	59.9	4M
881933 OR8401142S		88HWRPN 10	HW	61.2	70.7	0.34	88.5	10.1	58.4	4M
881934 OR8401161H		88HWRPN 12	HW	61.6	71.7	0.35	89.0	8.3	57.7	2M
881935 OR8401711P		88HWRPN 13	HW	63.2	71.7	0.32	90.6	7.4	57.9	5L
881936 OR8401712H		88HWRPN 14	HW	63.2	71.7	0.31	91.1	8.3	59.6	5M
881937 OR8401714P		88HWRPN 15	HW	64.0	71.4	0.33	89.7	7.9	58.0	5L
881938 OR8403671H		88HWRPN 19	HW	62.4	70.7	0.33	89.0	8.0	57.8	2M
881939 OR8403939H		88HWRPN 20	HW	64.0	71.7	0.30	91.6	9.5	55.7	2M
881940 OR860098		88HWRPN 25	HW	62.0	68.9	0.36	85.5	10.0	58.9	8M
881941 OR860112		88HWRPN 29	HW	62.0	68.2	0.34	85.8	9.7	56.9	3M
881942 OR860113		88HWRPN 30	HW	61.6	68.9	0.37	84.9	9.1	57.7	5M
881943 OR860124		88HWRPN 33	HW	62.8	68.1	0.27	89.4	8.1	61.6	6L
881944 OR860125		88HWRPN 34	HW	62.0	68.3	0.37	84.3	8.4	59.6	4L
881945 OR860126		88HWRPN 35	HW	63.6	69.2	0.35	86.5	7.0	59.7	4L
881946 OR860127		88HWRPN 36	HW	64.4	69.0	0.35	86.2	7.6	60.4	5L
881947 OR860154		88HWRPN 37	HW	59.6	70.2	0.41	84.3	8.6	58.9	6M
881948 OR860172		88HWRPN 38	HW	62.0	68.9	0.32	87.6	9.5	60.5	3M
881949 OR860401		88HWRPN 43	HW	63.2	69.6	0.37	85.8	9.9	57.9	2M
881950 OR860445		88HWRPN 44	HW	62.8	71.3	0.33	89.6	9.0	60.7	6M
881951 OR860583		88HWRPN 47	HW	62.0	69.9	0.37	86.0	7.2	59.3	4L
881952 OR860759		88HWRPN 53	HW	62.8	70.9	0.35	88.1	8.2	59.0	3M
881953 OR860764		88HWRPN 54	HW	63.4	70.4	0.35	87.6	7.1	58.6	3M
881954 OR860791		88HWRPN 56	HW	63.6	69.9	0.36	86.5	7.7	57.9	3M
881955 OR860792		88HWRPN 57	HW	62.0	71.3	0.37	87.5	8.6	58.8	2M

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 9% Protein

4/ Observed Values Corrected to 9% Protein

5/

Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

NURSCO 64

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					3/			4/		
881926	BATUM	88HWRPN 1	HRW	58.5	58.7	2.3	855	867	3	
881927	OR CW8423	88HWRPN 4	HW	58.1	57.9	2.3	870	858	2	
881928	OR CW8623	88HWRPN 5	HW	57.1	59.3	3.0	660	796	9	P-BCRGR
881929	OR8402847H	88HWRPN 6	HW	58.1	58.0	2.5	760	754	6	P-FYELD,Q-BCRGR
881930	OR8403032P	88HWRPN 7	HW	58.3	57.5	2.3	785	735	8	Q-MTIME,P-BCRGR
881931	OR8400114P	88HWRPN 8	HW	58.3	58.2	2.8	720	714	8	P-FYELD,Q-LVOL,P-BCRGR
881932	OR8400115H	88HWRPN 9	HW	61.6	60.6	3.6	800	738	3	P-FYELD
881933	OR8401142S	88HWRPN 10	HW	60.2	59.1	3.1	845	777	4	
881934	OR8401161H	88HWRPN 12	HW	57.7	58.4	2.2	790	833	8	P-BCRGR
881935	OR8401711P	88HWRPN 13	HW	57.0	58.6	2.6	602	701	9	P-LVOL,P-BCRGR
881936	OR8401712H	88HWRPN 14	HW	59.6	60.3	3.6	715	758	8	P-BCRGR
881937	OR8401714P	88HWRPN 15	HW	57.6	58.7	3.2	665	733	9	Q-LVOL,P-BCRGR
881938	OR8403671H	88HWRPN 19	HW	57.5	58.5	1.9	660	722	9	P-MTIME,Q-LVOL,P-BCRGR
881939	OR8403939H	88HWRPN 20	HW	56.9	56.4	1.8	715	684	8	P-MTIME,P-LVOL,P-BCRGR
881940	OR860098	88HWRPN 25	HW	66.6	65.6	4.0	775	713	6	P-FYELD,P-LVOL,Q-BCRGR
881941	OR860112	88HWRPN 29	HW	58.3	57.6	2.8	575	532	9	P-FYELD,VP-LVOL,P-BCRGR
881942	OR860113	88HWRPN 30	HW	58.5	58.4	3.5	655	649	9	P-FYELD,VP-LVOL,P-BCRGR
881943	OR860124	88HWRPN 33	HW	61.4	62.3	4.0	560	616	9	P-FYELD,VP-LVOL,P-BCRGR
881944	OR860125	88HWRPN 34	HW	60.2	60.8	3.7	595	632	9	P-FYELD,VP-LVOL,P-BCRGR
881945	OR860126	88HWRPN 35	HW	58.4	60.4	3.2	470	594	9	P-FYELD,VP-LVOL,P-BCRGR
881946	OR860127	88HWRPN 36	HW	60.7	62.1	3.3	565	652	9	P-FYELD,P-LVOL,P-BCRGR
881947	OR860154	88HWRPN 37	HW	60.2	60.6	3.7	820	845	8	P-FYELD,P-BCRGR
881948	OR860172	88HWRPN 38	HW	62.7	62.2	3.0	625	594	6	P-FYELD,P-LVOL,Q-BCRGR
881949	OR860401	88HWRPN 43	HW	60.0	59.1	2.0	620	564	9	P-FYELD,P-LVOL,P-BCRGR
881950	OR860445	88HWRPN 44	HW	62.4	62.4	3.9	795	795	8	P-BCRGR
881951	OR860583	88HWRPN 47	HW	59.2	61.0	3.4	585	697	9	P-FYELD,P-LVOL,P-BCRGR
881952	OR860759	88HWRPN 53	HW	59.9	60.7	2.1	700	750	9	P-MTIME,P-BCRGR
881953	OR860764	88HWRPN 54	HW	59.9	61.8	2.1	570	688	9	Q-FYELD,P-MTIME,P-LVOL,P-BCRGR
881954	OR860791	88HWRPN 56	HW	57.8	59.1	2.1	595	676	9	P-FYELD,P-MTIME,P-LVOL,P-BCRGR
881955	OR860792	88HWRPN 57	HW	59.1	59.5	1.7	670	695	8	P-MTIME,P-LVOL,P-BCRGR

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

HWI REPLICATED PRELIMINARY YT

W.E. KRONSTAD

PENDLETON, OR

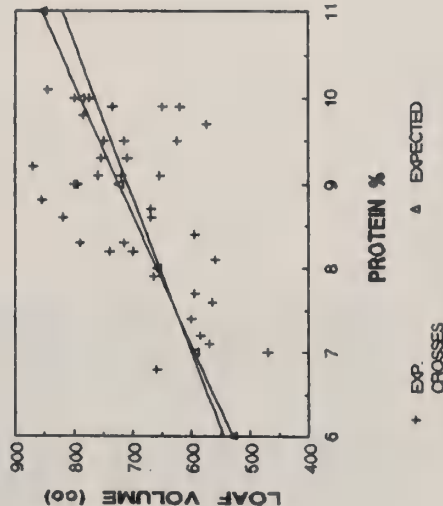
NURSCO 64

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
881956 OR860794		88HWRPN 58	HWI	63.2	72.5	0.34	90.3	8.2	58.8	3M
881957 OR860848		88HWRPN 60	HWI	62.4	69.2	0.33	87.4	9.3	60.2	8M
881958 OR860849		88HWRPN 61	HWI	64.4	67.0	0.29	87.2	9.9	56.7	2M
881959 OR860851		88HWRPN 62	HWI	64.8	67.4	0.30	87.1	9.3	57.9	3M
881960 OR861476		88HWRPN 64	HWI	62.0	70.2	0.34	87.9	8.7	60.0	5M
881961 OR861503		88HWRPN 65	HWI	61.6	72.3	0.32	91.2	9.5	58.0	3M
881962 OR861578		88HWRPN 66	HWI	65.6	69.7	0.25	92.1	9.9	57.6	4M
881963 OR861599		88HWRPN 67	HWI	64.0	68.9	0.32	87.6	9.0	59.7	8M

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
881956 OR860794		88HWRPN 5B	HWW	59.2	60.0	2.2	740	790	8	Q-MTIME, P-BCRGR
881957 OR860848		88HWRPN 60	HWW	62.2	61.9	3.9	755	736	9	P-FYELD, P-BCRGR
881958 OR860849		88HWRPN 61	HWW	58.8	57.9	2.0	650	594	9	P-FYELD, P-MTIME, P-LVOL, P-BCRGR
881959 OR860851		88HWRPN 62	HWW	59.9	59.6	2.2	710	691	8	P-FYELD, Q-MTIME, P-LVOL, P-BCRGR
881960 OR861476		88HWRPN 64	HWW	61.4	61.7	3.9	670	689	9	P-FYELD, P-LVOL, P-BCRGR
881961 OR861503		88HWRPN 65	HWW	59.7	59.2	2.3	750	719	8	Q-MTIME, P-LVOL, P-BCRGR
881962 OR861578		88HWRPN 66	HWW	59.7	58.8	2.3	735	679	8	P-FYELD, Q-MTIME, P-LVOL, P-BCRGR
881963 OR861599		88HWRPN 67	HWW	61.4	61.4	4.5	800	800	5	P-FYELD, Q-BCRGR

LOAF VOLUME VS PROTEIN

COMMENTS: This nursery averaged 9% flour protein. In general, many selections had either poor flour yields, poor loaf volumes, and poor bread crumb grain. Due to the low protein content, of the nursery, results may not be meaningful. See nursery 084 for more selections from the same nursery set.



W.E. KRONSTAD

CORVALLIS, OR

NURSCO 65

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	COOI
						1/		1/	3/	
881964 STEPHENS		88XWPTY 15	SWW	58.4	71.9	0.38	88.3	7.3	53.8	8.86
881965 HILL		88XWPTY 31	SWW	60.8	72.9	0.37	90.1	8.6	54.2	8.81
881966 MALCOLM		88XWPTY 8	SWW	56.4	70.1	0.34	88.5	8.1	53.0	9.15
881967 OR 870012		5/ 88XWPTY 3	SWW	60.8	73.3	0.30	95.0	7.8	53.5	8.96
881968 OR 870024		88XWPTY 10	SWW	58.4	71.8	0.32	91.9	8.1	53.7	8.87
881969 OR 870025		88XWPTY 11	SWW	56.0	70.0	0.39	85.2	8.5	53.6	9.34
881970 OR 870029		88XWPTY 13	SWW	58.8	69.5	0.39	84.6	8.0	55.1	8.99
881971 OR 870050		88XWPTY 21	SWW	60.0	67.9	0.41	81.3	8.1	54.4	8.98
881972 OR 870052		88XWPTY 22	SWW	56.4	63.9	0.44	74.3	8.7	54.7	8.95
881973 OR 870053		88XWPTY 23	SWW	58.4	68.8	0.40	83.1	8.4	54.7	8.83
881974 OR 870058		88XWPTY 24	SWW	61.6	70.4	0.39	85.7	7.5	56.1	9.07
881975 OR 870079		88XWPTY 28	SWW	59.6	71.1	0.37	87.9	8.8	54.3	9.24
881976 OR 870081		6/ 88XWPTY 29	SWW	60.8	72.7	0.35	91.2	8.5	54.6	8.95
881977 OR 870082		88XWPTY 30	SWW	61.6	69.6	0.38	85.4	8.9	52.1	9.05
881978 OR 870094		88XWPTY 35	SWW	60.8	71.4	0.37	88.2	7.9	54.2	8.99
881979 OR 870096		6/ 88XWPTY 36	SWW	63.2	71.5	0.32	91.5	8.4	53.7	9.05
881980 OR 870102		88XWPTY 38	SWW	60.0	70.1	0.36	87.2	8.0	53.3	8.90
881981 OR 870103		88XWPTY 39	SWW	61.2	70.7	0.35	88.6	8.6	53.7	9.08
881982 OR 870104		88XWPTY 40	SWW	61.2	71.9	0.40	87.1	8.1	53.7	9.24
881983 OR 870105		88XWPTY 41	SWW	58.4	71.6	0.45	83.5	7.7	52.3	8.91
881984 OR 870107		88XWPTY 42	SWW	61.2	70.2	0.39	85.4	6.9	55.0	9.06
881985 OR 870112		88XWPTY 45	SWW	62.8	68.8	0.36	85.6	8.1	53.0	8.85
881986 OR 870115		88XWPTY 46	SWW	57.2	70.2	0.35	87.9	8.2	54.6	8.50
881987 OR 870116		88XWPTY 47	SWW	58.4	71.1	0.33	90.4	8.3	53.8	9.01
881988 OR 870117		88XWPTY 48	SWW	60.8	69.1	0.39	84.1	9.1	54.0	9.20
881989 OR 870122		88XWPTY 49	SWW	58.8	68.5	0.41	82.1	10.1	53.9	8.87
881990 OR 870124		6/ 88XWPTY 50	SWW	61.2	73.1	0.34	92.3	8.9	55.1	8.87
881991 OR 870156		88XWPTY 56	SWW	56.0	69.1	0.35	86.6	9.5	55.1	8.73
881992 OR 870157		88XWPTY 57	SWW	56.4	69.7	0.44	81.8	9.5	54.4	8.87
881993 OR 870158		88XWPTY 59	SWW	60.4	71.3	0.42	85.0	8.6	54.7	8.85

1/ Observed values corrected to 14% moisture basis
 3/ Absorption at 14% moisture corrected to 9% protein
 4/ Observed values corrected to 9% protein
 5/ Particularly promising overall quality characteristics
 6/ Promising overall quality characteristics

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LABNUM	VARIETY	IDNO	CLASS	CODIC 4/	MTYPE	RMKS
881964 STEPHENS		88XWPTY 15	SWW	8.68	2L	
881965 HILL		88XWPTY 31	SWW	8.77	3L	
881966 MALCOLM		88XWPTY 8	SWW	9.05	3L	
881967 OR 870012		88XWPTY 3	SWW	8.83	3L	
881968 OR 870024		88XWPTY 10	SWW	8.78	3L Q-TWT	
881969 OR 870025		88XWPTY 11	SWW	9.28	3L P-TWT, Q-MSCOR	
881970 OR 870029		88XWPTY 13	SWW	8.88	3L Q-TWT, Q-MSCOR	
881971 OR 870050		88XWPTY 21	SWW	8.88	3L P-FYELD	
881972 OR 870052		88XWPTY 22	SWW	8.92	3M P-TWT, VP-FYELD	
881973 OR 870053		88XWPTY 23	SWW	8.76	2L Q-TWT, Q-MSCOR	
881974 OR 870058		88XWPTY 24	SWW	8.91	3L Q-MSCOR	
881975 OR 870079		88XWPTY 28	SWW	9.22	1L	
881976 OR 870081		88XWPTY 29	SWW	8.89	6L	
881977 OR 870082		88XWPTY 30	SWW	9.04	2L Q-MSCOR	
881978 OR 870094		88XWPTY 35	SWW	8.87	1L	
881979 OR 870096		88XWPTY 36	SWW	8.98	2L	
881980 OR 870102		88XWPTY 38	SWW	8.79	2L	
881981 OR 870103		88XWPTY 39	SWW	9.03	2L	
881982 OR 870104		88XWPTY 40	SWW	9.14	2L	
881983 OR 870105		88XWPTY 41	SWW	8.77	3L Q-TWT, Q-MSCOR	
881984 OR 870107		88XWPTY 42	SWW	8.83	1L Q-MSCOR	
881985 OR 870112		88XWPTY 45	SWW	8.75	2L Q-MSCOR	
881986 OR 870115		88XWPTY 46	SWW	8.41	8L P-TWT, P-COD1	
881987 OR 870116		88XWPTY 47	SWW	8.94	5L Q-TWT	
881988 OR 870117		88XWPTY 48	SWW	9.21	2M Q-MSCOR	
881989 OR 870122		88XWPTY 49	SWW	9.00	4M Q-TWT, Q-MSCOR	
881990 OR 870124		88XWPTY 50	SWW	8.86	6L	
881991 OR 870156		88XWPTY 56	SWW	8.78	3L P-TWT, Q-MSCOR	
881992 OR 870157		88XWPTY 57	SWW	8.93	2L P-TWT, P-MSCOR	
881993 OR 870158		88XWPTY 59	SWW	8.81	3L Q-MSCOR	

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD 1/	FASH	MSCOR 1/	FPROT	MABSC 3/	COD1
881994 OR 870159		88XWPTY 60	SWW	60.4	72.4	0.40	87.6	7.8	54.5	9.04
881995 OR 870162		88XWPTY 61	SWW	60.0	69.3	0.41	83.1	8.4	53.2	9.00
881996 OR 870166		88XWPTY 63	SWW	59.2	71.2	0.41	85.5	9.1	53.9	9.25
881997 OR 870185		88XWPTY 71	SWW	60.8	71.5	0.46	82.7	8.5	54.3	8.86
881998 OR 870187		88XWPTY 72	SWW	57.6	70.9	0.40	85.7	8.1	54.0	9.26
881999 OR 870207		88XWPTY 78	SWW	60.8	72.8	0.40	88.1	8.1	54.2	8.96
882000 OR 870208		88XWPTY 79	SWW	63.2	71.1	0.37	87.8	8.6	53.9	8.80
882001 OR 870211		88XWPTY 80	SWW	57.6	65.7	0.44	76.6	8.6	53.7	8.69
882002 OR 870214		88XWPTY 82	SWW	62.0	72.1	0.39	87.9	8.2	54.4	8.79
882003 OR 870215		88XWPTY 83	SWW	60.0	70.5	0.44	82.7	9.4	53.7	8.84
882004 OR 870216		88XWPTY 84	SWW	62.0	73.4	0.43	87.2	7.8	53.8	8.87
882005 OR 870217		88XWPTY 85	SWW	60.0	70.2	0.43	83.0	8.1	53.0	8.68
882006 OR 870221		88XWPTY 86	HW	61.6	69.1	0.36	85.8	8.7	55.0	9.06
882007 OR 870222		88XWPTY 87	SWW	58.8	69.5	0.40	84.0	8.9	52.1	9.05
882008 OR 870226		88XWPTY 88	SWW	56.8	69.8	0.38	85.6	8.7	54.3	8.79
882009 OR 870237		6/ 88XWPTY 94	SWW	62.8	71.3	0.35	89.4	8.6	53.9	8.94
882010 OR 870255		6/ 88XWPTY 96	SWW	64.4	71.9	0.35	90.1	9.1	56.0	9.34
882011 OR 870303		88XWPTY101	SWW	54.8	71.3	0.37	88.1	8.7	54.4	8.98
882012 OR 870311		88XWPTY103	SWW	56.8	67.3	0.39	81.9	8.9	54.9	9.05
882013 OR 870314		88XWPTY106	SWW	58.4	69.4	0.39	84.5	8.9	55.2	9.04
882014 OR 870337		88XWPTY111	SWW	59.2	67.6	0.41	80.9	8.2	54.8	9.06
882015 OR 870338		88XWPTY112	SWW	58.4	64.1	0.40	77.1	9.2	55.3	9.18
882016 OR 870341		88XWPTY113	SWW	61.6	70.9	0.36	88.3	8.7	55.6	9.04
882017 OR 870347		6/ 88XWPTY115	SWW	61.6	70.5	0.34	89.0	7.9	56.1	9.33
882018 OR 870349		6/ 88XWPTY116	SWW	61.6	72.4	0.34	91.4	8.4	55.5	9.01
882019 OR 870367		88XWPTY119	SWW	59.6	68.3	0.39	83.1	9.0	57.0	8.81
882020 OR 870368		88XWPTY120	SWW	56.4	69.0	0.33	87.7	8.9	56.0	8.99
882021 OR 870389		88XWPTY130	SWW	62.8	67.5	0.37	83.3	9.7	52.4	8.94
882022 OR 870388		88XWPTY131	SWW	62.8	68.3	0.38	83.7	9.8	53.1	9.08
882023 OR 870391		88XWPTY133	SWW	62.4	68.5	0.42	81.6	10.6	52.1	8.87

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LABNUM	VARIETY	IDNO	CLASS	CODIC	MTYPE	RMKS
881994 OR 870159		88XWPTY 60	SWW	8.91	3L	Q-MSCOR
881995 OR 870162		88XWPTY 61	SWW	8.93	2L	Q-MSCOR
881996 OR 870166		88XWPTY 63	SWW	9.26	3L	Q-MSCOR
881997 OR 870185		88XWPTY 71	SWW	8.81	3L	P-MSCOR
881998 OR 870187		88XWPTY 72	SWW	9.16	3L	P-TWT, Q-MSCOR
881999 OR 870207		88XWPTY 78	SWW	8.86	5L	
882000 OR 870208		88XWPTY 79	SWW	8.76	3L	
882001 OR 870211		88XWPTY 80	SWW	8.64	6L	P-TWT, VP-MSCOR-Q-CODI
882002 OR 870214		88XWPTY 82	SWW	8.70	3L	
882003 OR 870215		88XWPTY 83	SWW	8.88	2M	P-MSCOR
882004 OR 870216		88XWPTY 84	SWW	8.74	2M	
882005 OR 870217		88XWPTY 85	SWW	8.58	2M	P-MSCOR, Q-CODI
882006 OR 870221		88XWPTY 86	HWW	9.04	3L	Q-MSCOR
882007 OR 870222		88XWPTY 87	SWW	9.04	2M	Q-TWT, P-MSCOR
882008 OR 870226		88XWPTY 88	SWW	8.75	3L	P-TWT, Q-MSCOR
882009 OR 870237		88XWPTY 94	SWW	8.89	2M	
882010 OR 870255		88XWPTY 96	SWW	9.35	3M	
882011 OR 870303		88XWPTY 101	SWW	8.94	6L	P-TWT
882012 OR 870311		88XWPTY 103	SWW	9.04	2L	P-TWT, VP-MSCOR
882013 OR 870314		88XWPTY 106	SWW	9.03	4L	Q-TWT, Q-MSCOR
882014 OR 870337		88XWPTY 111	SWW	8.97	2M	P-MSCOR
882015 OR 870338		88XWPTY 112	SWW	9.20	3L	Q-TWT, VP-FYELD, VP-MSCOR
882016 OR 870341		88XWPTY 113	SWW	9.00	6L	
882017 OR 870347		88XWPTY 115	SWW	9.20	2L	
882018 OR 870349		88XWPTY 116	SWW	8.95	2L	
882019 OR 870367		88XWPTY 119	SWW	8.81	3L	P-MSCOR
882020 OR 870368		88XWPTY 120	SWW	8.98	4L	P-TWT
882021 OR 870389		88XWPTY 130	SWW	9.01	2L	P-FYELD, P-MSCOR
882022 OR 870388		88XWPTY 131	SWW	9.16	1M	P-FYELD, P-MSCOR
882023 OR 870391		88XWPTY 133	SWW	9.05	1M	P-FYELD, P-MSCOR

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LABNUM	VARIETY	IDNO	CLASS	TWT	FYLD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	CODI
882024 OR 870392		88XWPYT134	SWW	62.8	69.4	0.37	85.8	10.1	53.1	8.94
882025 OR 870396		88XWPYT136	SWW	63.6	69.2	0.40	83.7	10.0	52.3	9.00
882026 OR 870403		88XWPYT138	SWW	62.4	66.6	0.40	80.3	11.6	53.2	8.74
882027 OR 870415		88XWPYT139	SWW	58.0	72.0	0.42	85.9	8.6	52.4	9.34
882028 OR 870416		88XWPYT140	SWW	58.4	72.9	0.38	89.6	8.6	52.6	9.06
882029 OR 870425		5/ 88XWPYT141	SWW	61.2	72.1	0.31	92.9	9.4	53.1	8.98
882030 OR 870444		88XWPYT143	SWW	58.4	72.2	0.38	88.6	9.7	52.9	9.25
882031 OR 870445		88XWPYT144	SWW	55.2	69.3	0.33	88.1	9.4	54.5	9.17
882032 OR 870470		88XWPYT154	SWW	62.0	70.5	0.43	83.4	8.2	53.9	8.74
882033 OR 870513		5/ 88XWPYT161	SWW	64.0	71.4	0.31	92.0	9.8	54.2	8.83
882034 OR 870516		6/ 88XWPYT163	SWW	63.6	70.9	0.31	91.9	8.2	57.4	8.89
882035 OR 870531		88XWPYT169	SWW	56.0	69.0	0.43	81.5	9.5	56.5	8.94
882036 OR 870532		6/ 88XWPYT170	SWW	62.4	70.3	0.31	90.6	8.9	53.1	9.00
882037 OR 870566		88XWPYT175	SWW	57.2	66.8	0.36	83.0	9.7	54.6	8.96
882038 OR 870601		88XWPYT180	SWW	61.2	73.9	0.45	86.4	9.0	54.3	8.95
882039 OR 870607		88XWPYT181	SWW	63.2	71.3	0.38	88.0	8.8	58.0	8.56
882040 OR 870631		88XWPYT184	SWW	60.8	72.0	0.36	89.6	8.3	56.0	9.06
882041 OR 870666		88XWPYT187	SWW	61.6	69.3	0.42	82.4	8.6	56.2	8.81
882042 OR 870669		88XWPYT190	SWW	58.8	67.0	0.37	82.6	9.5	56.6	9.19
882043 OR 870684		6/ 88XWPYT198	SWW	61.6	70.5	0.31	90.9	8.9	53.7	9.04
882044 OR 870687		88XWPYT200	SWW	62.4	72.1	0.39	87.9	8.3	52.2	9.70
882045 OR 870688		88XWPYT202	SWW	60.0	65.8	0.38	80.5	9.3	55.0	9.39
882046 OR 870695		88XWPYT206	HWW	61.6	68.2	0.35	85.4	8.4	56.1	9.04
882047 OR 870699		88XWPYT207	SWW	60.8	69.8	0.33	88.7	7.8	55.0	8.92
882048 OR 870702		88XWPYT208	SWW	60.4	72.2	0.33	91.7	8.2	53.6	8.84
882049 OR 870703		88XWPYT209	SWW	59.2	70.4	0.41	84.5	8.1	54.5	9.16
882050 OR 870757		88XWPYT214	SWW	61.2	70.5	0.38	86.5	8.4	52.7	9.24
882051 OR 870775		88XWPYT216	SWW	61.6	67.8	0.33	86.2	9.7	52.3	9.12
882052 OR 870814		88XWPYT236	SWW	56.0	64.7	0.42	76.6	9.5	53.3	8.69
882053 OR 870815		88XWPYT237	SWW	58.4	65.7	0.40	79.1	10.9	52.6	8.79

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LABNUM	VARIETY	IDNO	CLASS	CODIC	MTYPE	RMKS
882024 OR 870392		88XWPTY134	SWW	9.06	1M	Q-MSCOR
882025 OR 870396		88XWPTY136	SWW	9.11	1M	Q-MSCOR
882026 OR 870403		88XWPTY138	SWW	9.02	2M	P-FYELD, P-MSCOR
882027 OR 870415		88XWPTY139	SWW	9.29	2L	Q-TWT, Q-MSCOR
882028 OR 870416		88XWPTY140	SWW	9.02	3L	Q-TWT
882029 OR 870425		88XWPTY141	SWW	9.02	3M	
882030 OR 870444		88XWPTY143	SWW	9.33	3M	Q-TWT
882031 OR 870445		88XWPTY144	SWW	9.22	3L	P-TWT
882032 OR 870470		88XWPTY154	SWW	8.65	2L	Q-MSCOR, Q-COD1
882033 OR 870513		88XWPTY161	SWW	8.91	2M	
882034 OR 870516		88XWPTY163	SWW	8.80	2L	
882035 OR 870531		88XWPTY169	SWW	8.99	5M	P-TWT, P-MSCOR
882036 OR 870532		88XWPTY170	SWW	8.99	2M	
882037 OR 870566		88XWPTY175	SWW	9.04	3L	P-TWT, P-MSCOR
882038 OR 870601		88XWPTY180	SWW	8.95	2M	
882039 OR 870607		88XWPTY181	SWW	8.54	5M	P-COD1
882040 OR 870631		88XWPTY184	SWW	8.99	3L	
882041 OR 870666		88XWPTY187	SWW	8.77	4L	P-MSCOR
882042 OR 870669		88XWPTY190	SWW	9.24	2L	P-MSCOR
882043 OR 870684		88XWPTY198	SWW	9.03	5L	
882044 OR 870687		88XWPTY200	SWW	9.62	4L	
882045 OR 870688		88XWPTY202	SWW	9.42	4L	P-FYELD, P-MSCOR
882046 OR 870695		88XWPTY206	HWW	8.99	3L	Q-MSCOR
882047 OR 870699		88XWPTY207	SWW	8.79	4L	
882048 OR 870702		88XWPTY208	SWW	8.75	2L	
882049 OR 870703		88XWPTY209	SWW	9.06	2L	Q-TWT, Q-MSCOR
882050 OR 870757		88XWPTY214	SWW	9.17	2L	Q-MSCOR
882051 OR 870775		88XWPTY216	SWW	9.20	3L	P-FYELD
882052 OR 870814		88XWPTY236	SWW	8.74	2M	P-TWT, VP-FYELD, VP-MSCOR
882053 OR 870815		88XWPTY237	SWW	9.00	3M	Q-TWT, VP-FYELD, VP-MSCOR

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PENDLETON, OR

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LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					<u>3/</u>			<u>4/</u>		
882092 MCKAY		88RPT1 1	HRS	62.8	63.3	3.4	970	1001	2	
882093 BORAH		88RPT1 2	HRS	63.7	63.5	2.6	930	918	4	
882094 PCMEX-87-006		88RPT1 4	HRS	60.9	62.3	2.1	800	887	6	P-MTIME,BCRGR
882095 PCMEX-87-013		88RPT1 5	HRS	67.0	67.7	4.7	680	723	7	P-LVOL,BCRGR,FYELD
882096 PCMEX-87-099		88RPT1 7	HRS	64.4	64.3	2.6	865	859	4	Q-MTIME,BCRGR,FYELD
882097 PCMEX-87-134		88RPT1 11	HRS	62.6	63.5	2.1	810	866	8	P-MTIME,BCRGR
882098 PCMEX-87-138		88RPT1 12	HRS	66.4	64.7	2.3	965	860	3	P-FYELD,MTIME
882099 PCMEX-87-147		88RPT1 13	HRS	64.0	63.3	1.8	875	832	8	P-FYELD,MTIME,LVOL,BCRGR
882100 PCMEX-87-151		88RPT1 15	HRS	63.5	63.2	2.2	835	816	8	P-FYELD,MTIME,LVOL,BCRGR
882101 PCMEX-87-161		88RPT1 18	HRS	61.5	62.9	1.7	700	787	9	P-FYELD,MTIME,LVOL,BCRGR
882102 PCMEX-87-170		88RPT1 19	HRS	63.2	64.9	1.8	725	830	9	P-FYELD,MTIME,LVOL,BCRGR
882103 PCMEX-87-295		88RPT1 21	HRS	67.6	67.2	8.0	1000	975	1	
882104 PCMEX-87-209		88RPT2 4	HRS	62.5	61.1	3.1	965	878	3	
882105 PCMEX-87-210		88RPT2 5	HRS	63.7	63.6	4.6	930	924	2	
882106 PCMEX-87-302		88RPT2 9	HRS	63.2	63.3	4.8	935	941	2	
882107 PCMEX-87-201		88RPT2 13	HRS	63.0	62.2	3.0	855	805	6	P-FYELD,LVOL,BCRGR
882108 PCMEX-87-390		88RPT2 16	HRS	62.9	62.2	3.1	835	792	7	P-FYELD,LVOL,BCRGR
882109 PCMEX-87-399		88RPT2 17	HRS	60.5	61.7	1.9	725	799	9	P-MTIME,LVOL,BCRGR
882110 PCMEX-87-444		88RPT2 18	HRS	58.7	61.5	1.3	715	889	9	P-MTIME,LVOL,BCRGR
882111 PCMEX-87-450		88RPT2 19	HRS	58.6	61.1	2.0	700	855	9	P-MTIME,LVOL,BCRGR
882112 PCMEX-87-476		88RPT2 20	HRS	63.5	63.3	2.9	850	838	4	P-FYELD,LVOL
882113 PCMEX-87-619		88RPT3 4	HRS	65.8	62.2	1.8	885	662	6	P-FYELD,MTIME,LVOL,BCRGR
882114 PCMEX-87-628		88RPT3 6	HRS	61.7	60.7	10.0	685	623	9	P-FYELD,MTIME,LVOL,BCRGR
882115 PCMEX-87-659		88RPT3 8	HRS	62.8	61.8	2.1	875	813	6	P-FYELD,MTIME,LVOL,BCRGR
882116 PCMEX-87-667		88RPT3 12	HRS	62.3	62.5	3.7	895	907	6	Q-BCRGR
882117 PCMEX-87-679		88RPT3 13	HRS	62.4	62.3	3.2	870	864	6	Q-FYELD,BCRGR
882118 PCMEX-87-681		88RPT3 14	HRS	67.2	67.6	5.5	700	725	8	P-FYELD,LVOL,BCRGR
882119 PCMEX-87-684		88RPT3 15	HRS	65.0	62.8	3.4	970	834	5	Q-BCRGR,FYELD
882120 PCMEX-87-685		88RPT3 16	HRS	63.7	64.4	3.3	975	1018	5	Q-BCRGR,FYELD
882121 PCMEX-87-752		88RPT3 20	HRS	66.2	65.3	3.9	1080	1024	2	Q-FYELD

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LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
882122 PCMX-87-758		88RPT4 3	HRS	64.4	70.8	0.37	87.0	10.9	62.2	3M
882123 PCMX-87-760		88RPT4 4	HRS	64.0	65.6	0.29	86.0	11.8	58.6	2M
882124 IBWSN-87-015		88RPT4 12	HRS	60.8	69.9	0.33	88.1	10.9	60.3	2M
882125 IBWSN-87-055		88RPT4 16	HRS	57.6	69.5	0.37	85.6	11.4	60.4	4M
882126 IBWSN-87-056		88RPT4 17	HRS	64.0	71.2	0.29	91.5	11.3	61.8	6M
882127 IBWSN-87-059		88RPT4 18	HRS	65.2	71.1	0.32	89.9	10.7	60.7	3M
882128 IBWSN-87-063		88RPT4 20	HRS	62.8	68.1	0.35	85.2	11.3	60.9	4M
882129 IBWSN-87-073		6/ 88RPT4 22	HRS	63.6	69.8	0.32	88.5	10.6	66.9	8M
882130 IBWSN-87-077		88RPT5 3	HRS	62.8	67.7	0.36	84.2	11.8	62.5	8M
882131 IBWSN-87-139		88RPT5 7	HRS	64.8	72.5	0.33	91.0	11.1	61.3	4M
882132 IBWSN-87-184		88RPT5 9	HWS	58.4	66.8	0.46	78.1	12.3	62.6	3H
882133 IBWSN-87-199		88RPT5 11	HRS	55.6	65.4	0.45	77.2	13.7	63.8	3H
882134 IBWSN-87-223		88RPT5 15	HRS	59.6	65.3	0.42	78.6	12.1	63.1	4M
882135 IBWSN-87-226		6/ 88RPT5 16	HRS	63.6	67.8	0.37	83.9	11.9	63.5	6M
882136 ISPTN-87-018		88RPT5 17	HRS	64.0	62.3	0.29	82.0	11.1	60.7	8M
882137 ISPTN-87-038		88RPT5 20	HRS	64.4	60.9	0.29	80.9	11.3	60.0	1M
882138 WALLY-87-001		88RPT5 21	HRS	64.4	68.3	0.37	84.5	11.2	61.3	4M

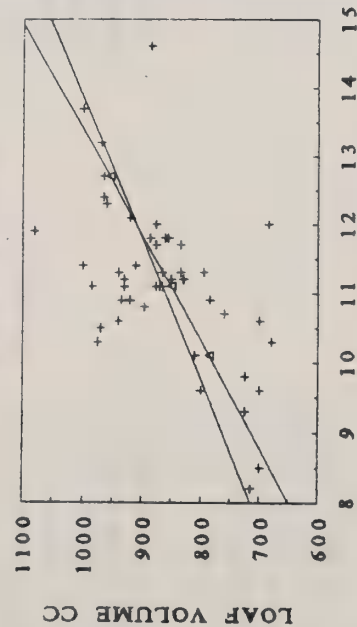
NURSCO 66

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
882122	PCMEX-87-758	88RPT4 3	HRS	61.8	61.9	2.0	920	926	6	P-MTIME, Q-BCRGR
882123	PCMEX-87-760	88RPT4 4	HRS	60.1	59.3	1.8	860	810	7	P-FYELD, MTIME, BCRGR
882124	IBWSN-87-015	88RPT4 12	HRS	60.9	61.0	1.9	785	791	8	P-MTIME, LVOL, BCRGR
882125	IBWSN-87-055	88RPT4 16	HRS	61.5	61.1	2.4	910	885	5	P-MTIME, LVOL, BCRGR
882126	IBWSN-87-056	88RPT4 17	HRS	62.8	62.5	3.1	940	921	5	Q-BCRGR
882127	IBWSN-87-059	88RPT4 18	HRS	61.1	61.4	2.0	760	779	9	P-MTIME, LVOL, BCRGR
882128	IBWSN-87-063	88RPT4 20	HRS	61.9	61.6	2.4	865	846	8	Q-FYELD, MTIME, P-BCRGR
882129	IBWSN-87-073	88RPT4 22	HRS	67.2	67.6	4.9	940	965	4	Q-BCRGR
882130	IBWSN-87-077	88RPT5 3	HRS	64.5	63.7	4.2	885	835	4	P-FYELD, Q-LVOL, BCRGR
882131	IBWSN-87-139	88RPT5 7	HRS	62.1	62.0	2.2	875	869	8	P-MTIME, LVOL, BCRGR
882132	IBWSN-87-184	88RPT5 9	HWS	64.6	63.3	2.6	960	879	3	P-FYELD, Q-BCRGR
882133	IBWSN-87-199	88RPT5 11	HRS	67.2	64.5	2.6	1000	833	3	P-FYELD, Q-BCRGR
882134	IBWSN-87-223	88RPT5 15	HRS	64.9	63.8	2.1	920	852	8	P-FYELD, MTIME, BCRGR
882135	IBWSN-87-226	88RPT5 16	HRS	63.1	62.2	4.2	1080	1024	2	Q-FYELD
882136	ISPTN-87-018	88RPT5 17	HRS	62.0	61.9	3.5	985	979	3	P-FYELD
882137	ISPTN-87-038	88RPT5 20	HRS	60.0	59.7	1.3	795	776	9	P-FYELD, MTIME, LVOL, BCRGR
882138	WALLY-87-001	88RPT5 21	HRS	62.2	62.0	2.3	830	818	9	P-MTIME, LVOL, BCRGR

LOAF VOLUME VS PROTEIN
HRS PRELIMINARY YT



COMMENTS: Most of these lines have problems in milling and/or baking. See "Remarks" for deficiencies of those not footnoted as promising. The accompanied plot illustrates the great spread in baking quality within the group, particularly in the mid-protein ranges.

PROTEIN %

+ EXP CROSSES Δ EXPECTED

NURSCO 67

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
						1/		1/	3/	
882139 MCKAY		88WPTY1 1	HRS	59.6	70.3	0.38	85.9	12.1	64.4	5H
882140 BORAH		88WPTY1 2	HRS	60.8	72.8	0.35	90.1	12.2	64.5	3H
882141 PCMEX-87-039		88WPTY1 5	HWS	60.8	68.5	0.43	81.4	10.0	63.8	6M
882142 PCMEX-87-079		88WPTY1 6	HWS	62.8	68.8	0.39	83.8	10.6	60.7	3M
882143 PCMEX-87-080		88WPTY1 7	HWS	64.8	69.4	0.39	84.5	9.5	63.8	2H
882144 PCMEX-87-081		88WPTY1 8	HWS	64.4	68.9	0.38	84.4	9.8	62.7	2M
882145 PCMEX-87-093		88WPTY1 10	HWS	64.4	68.9	0.40	83.4	10.2	62.4	4M
882146 PCMEX-87-094		88WPTY1 11	HWS	64.4	67.9	0.40	82.3	10.5	61.6	4M
882147 PCMEX-87-096		88WPTY1 12	HWS	65.2	69.7	0.37	85.9	10.5	59.9	4M
882148 PCMEX-87-141		88WPTY1 15	HWS	63.6	70.8	0.38	86.4	11.5	62.6	7M
882149 PCMEX-87-143		88WPTY1 17	HWS	66.0	69.1	0.44	81.4	10.2	60.3	4M
882150 PCMEX-87-186		88WPTY1 19	HWS	59.6	68.0	0.42	81.4	11.5	62.2	7M
882151 PCMEX-87-237		88WPTY2 4	HWS	62.4	68.7	0.39	83.7	13.0	60.5	5H
882152 PCMEX-87-241		88WPTY2 5	HWS	61.2	67.6	0.45	79.4	12.4	61.1	2H
882153 PCMEX-87-249		6/ 88WPTY2 6	HWS	60.4	69.1	0.41	83.0	12.2	66.8	5H
882154 PCMEX-87-251		88WPTY2 7	HWS	62.4	66.8	0.42	80.1	11.3	65.8	3H
882155 PCMEX-87-252		88WPTY2 8	HWS	60.8	69.6	0.41	83.6	11.8	66.3	3H
882156 PCMEX-87-255		88WPTY2 9	HWS	64.4	68.9	0.41	82.9	10.7	63.2	3M
882157 PCMEX-87-275		88WPTY2 10	HWS	63.2	68.6	0.40	83.1	10.4	63.8	4M
882158 PCMEX-87-276		88WPTY2 11	HWS	62.4	68.5	0.40	82.9	10.1	63.2	4M
882159 PCMEX-87-278		88WPTY2 12	HWS	64.4	68.8	0.39	83.8	9.4	60.8	3M
882160 PCMEX-87-357		88WPTY2 14	HWS	64.8	69.4	0.38	85.0	11.1	62.1	4M
882161 PCMEX-87-364		88WPTY2 16	HWS	64.8	69.9	0.40	84.2	11.9	61.8	4M
882162 PCMEX-87-408		6/ 88WPTY2 19	SWS	61.6	63.5	0.37	79.3	10.5	59.7	6M
882163 PCMEX-87-465		88WPTY2 22	HWS	62.4	65.8	0.43	78.5	13.4	65.2	5H
882164 PCMEX-87-525		88WPTY3 7	HWS	65.6	72.2	0.43	85.3	11.5	61.7	4M
882165 PCMEX-87-560		88WPTY3 8	HWS	66.4	71.3	0.41	85.5	11.6	61.7	3M
882166 PCMEX-87-547		88WPTY3 9	HWS	70.2	72.9	0.43	86.0	10.9	59.9	2M
882167 PCMEX-87-558		88WPTY3 11	HWS	62.8	71.0	0.40	85.5	11.6	64.0	4M
882168 PCMEX-87-559		6/ 88WPTY3 12	HWS	62.0	70.4	0.45	82.3	12.9	63.6	3H

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 11% Protein

4/ Observed Values Corrected to 11% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

NURSCO 67

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					3/			4/		
882139 MCKAY		88WPTY1 1	HRS	65.2	64.1	5.1	1100	1032		2
882140 BORAH		88WPTY1 2	HRS	65.4	64.2	3.4	1120	1046		2
882141 PCWEX-87-039		88WPTY1 5	HWS	62.5	63.5	3.3	850	912		7 Q-FYELD,LVOL,BCRGR
882142 PCWEX-87-079		88WPTY1 6	HWS	59.5	59.9	2.5	800	825		8 Q-FYELD,P-LVOL,BCRGR
882143 PCWEX-87-080		88WPTY1 7	HWS	61.5	63.0	2.2	720	813		8 P-MTIME,LVOL,BCRGR
882144 PCWEX-87-081		88WPTY1 8	HWS	60.7	61.9	2.2	735	809		9 P-MTIME,LVOL,BCRGR
882145 PCWEX-87-093		88WPTY1 10	HWS	60.8	61.6	2.8	810	860		6 Q-LVOL,BCRGR
882146 PCWEX-87-094		88WPTY1 11	HWS	60.3	60.8	3.0	800	831		8 P-LVOL,BCRGR,FYELD
882147 PCWEX-87-096		88WPTY1 12	HWS	59.1	59.6	3.1	790	821		8 P-LVOL,BCRGR
882148 PCWEX-87-141		88WPTY1 15	HWS	62.3	61.8	3.6	880	849		5 Q-BCRGR
882149 PCWEX-87-143		88WPTY1 17	HWS	59.7	60.5	3.2	765	815		8 Q-MSCOR,P-LVOL
882150 PCWEX-87-186		88WPTY1 19	HWS	62.9	62.4	4.0	855	824		4 Q-MSCOR,BCRGR
882151 PCWEX-87-237		88WPTY2 4	HWS	62.7	60.7	4.2	920	796		2 Q-LVOL,FYELD
882152 PCWEX-87-241		88WPTY2 5	HWS	62.7	61.3	2.1	855	768		7 Q-FYELD,MTIME,LVOL
882153 PCWEX-87-249		88WPTY2 6	HWS	67.7	66.5	3.6	930	856		2
882154 PCWEX-87-251		88WPTY2 7	HWS	65.8	65.5	2.6	900	881		4 P-FYELD,Q-BCRGR
882155 PCWEX-87-252		88WPTY2 8	HWS	67.3	66.5	3.1	820	770		4 Q-LVOL,BCRGR
882156 PCWEX-87-255		88WPTY2 9	HWS	63.1	63.4	2.3	810	829		8 P-MTIME,BCRGR
882157 PCWEX-87-275		88WPTY2 10	HWS	63.9	64.5	2.7	810	847		8 P-BCRGR
882158 PCWEX-87-276		88WPTY2 11	HWS	62.0	62.9	2.6	810	866		7 P-BCRGR
882159 PCWEX-87-278		88WPTY2 12	HWS	58.9	60.5	2.4	745	844		9 P-MTIME,BCRGR
882160 PCWEX-87-357		88WPTY2 14	HWS	61.9	61.8	2.6	835	829		6 Q-MTIME,BCRGR
882161 PCWEX-87-364		88WPTY2 16	HWS	63.9	63.0	3.3	865	809		4 Q-BCRGR
882162 PCWEX-87-408		88WPTY2 19	SWS	59.4	59.9	3.5	965	995		2 Note-Soft,Low FYELD
882163 PCWEX-87-465		88WPTY2 22	HWS	67.8	65.4	5.1	925	776		5 P-FYELD,LVOL,BCRGR
882164 PCWEX-87-525		88WPTY3 7	HWS	62.4	61.9	3.0	825	794		6 Q-BCRGR
882165 PCWEX-87-560		88WPTY3 8	HWS	62.0	61.4	2.2	790	753		7 P-MTIME,BCRGR
882166 PCWEX-87-547		88WPTY3 9	HWS	59.5	59.6	1.2	800	806		9 P-MTIME,BCRGR
882167 PCWEX-87-558		88WPTY3 11	HWS	64.8	64.2	2.5	810	773		8 P-MTIME,BCRGR
882168 PCWEX-87-559		88WPTY3 12	HWS	66.2	64.3	3.5	930	812		3 Q-LVOL

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PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
882169	PCMEX-87-571	88WPTY3 15	HWS	60.0	72.2	0.41	86.3	12.2	64.0	4M
882170	PCMEX-87-575	<u>6/</u> 88WPTY3 16	HWS	61.6	71.3	0.40	85.9	11.8	62.0	4M
882171	PCMEX-87-577	<u>6/</u> 88WPTY3 17	HWS	58.4	71.3	0.41	85.3	12.2	63.1	5M
882172	PCMEX-87-590	88WPTY3 20	HWS	64.4	70.3	0.39	85.3	10.6	60.9	4M
882173	PCMEX-87-641	88WPTY4 3	HWS	63.2	68.4	0.41	82.2	11.4	65.6	4M
882174	PCMEX-87-663	88WPTY4 4	HWS	62.4	68.3	0.40	82.6	12.0	64.4	2H
882175	PCMEX-87-703	88WPTY4 7	HWS	65.2	71.5	0.40	86.2	11.7	60.2	3M
882176	PCMEX-87-724	88WPTY4 8	HWS	63.2	65.2	0.41	78.9	11.3	60.3	2M
882177	PCMEX-87-727	88WPTY4 10	HWS	62.0	63.0	0.42	76.1	11.4	63.8	6M
882178	PCMEX-87-745	88WPTY4 11	HWS	63.2	65.7	0.32	84.1	11.2	58.6	2M
882179	PCMEX-87-753	88WPTY4 12	HWS	61.6	67.8	0.45	79.6	11.1	60.2	2H
882180	PCMEX-87-774	88WPTY4 13	SWS	64.4	62.2	0.32	80.9	10.5	56.4	4M
882181	PCMEX-87-779	88WPTY4 15	HWS	61.6	67.0	0.43	79.8	11.9	61.9	8M
882182	PCMEX-87-780	88WPTY4 16	HWS	62.0	67.2	0.45	79.0	11.7	59.9	7M
882183	IBWSN-87-009	<u>6/</u> 88WPTY4 19	HWS	60.4	67.4	0.39	82.4	11.9	61.1	4H
882184	IBWSN-87-032	88WPTY4 21	HWS	57.6	67.1	0.41	81.0	12.8	64.8	4H
882185	IBWSN-87-037	<u>6/</u> 88WPTY5 3	HWS	58.4	68.3	0.40	82.9	13.3	61.5	6M
882186	IBWSN-87-038	<u>6/</u> 88WPTY5 4	HWS	58.4	69.0	0.39	84.1	12.6	63.4	6M
882187	IBWSN-87-048	88WPTY5 5	HWS	58.0	66.4	0.38	81.8	13.3	64.4	7M
882188	IBWSN-87-054	88WPTY5 7	HWS	64.0	66.5	0.38	81.9	13.0	62.3	3M
882189	IBWSN-87-070	88WPTY5 8	HWS	59.2	67.0	0.45	78.8	11.3	61.9	3M
882190	IBWSN-87-075	88WPTY5 9	HWS	62.4	67.4	0.40	81.8	10.7	61.9	2M
882191	IBWSN-87-076	88WPTY5 10	HWS	62.4	67.0	0.39	82.0	10.8	59.8	2M
882192	IBWSN-87-089	<u>6/</u> 88WPTY5 14	HWS	60.8	66.2	0.48	76.4	11.3	65.2	5H
882193	IBWSN-87-111	<u>6/</u> 88WPTY5 18	HWS	62.0	69.0	0.38	84.5	13.3	61.9	3H
882194	IBWSN-87-145	88WPTY6 3	HWS	63.2	69.9	0.36	86.4	10.2	60.5	3M
882195	IBWSN-87-149	88WPTY6 4	HWS	63.2	72.2	0.42	85.9	11.2	59.6	4M
882196	IBWSN-87-150	88WPTY6 5	HWS	64.4	72.2	0.40	86.9	10.9	59.6	4M
882197	IBWSN-87-157	88WPTY6 6	HWS	63.6	71.0	0.38	86.7	10.1	56.4	2M
882198	IBWSN-87-161	88WPTY6 7	HWS	64.8	67.7	0.37	83.8	12.5	60.0	4M

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PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
882169	PCMEX-87-571	88WPTY3 15	HWS	65.4	64.2	2.3	985	911	4	Q-BCRGR, MTIME
882170	PCMEX-87-575	88WPTY3 16	HWS	63.0	62.2	2.7	940	890	3	
882171	PCMEX-87-577	88WPTY3 17	HWS	65.0	63.8	3.3	1015	941	4	
882172	PCMEX-87-590	88WPTY3 20	HWS	60.7	61.1	2.9	875	900	8	P-BCRGR
882173	PCMEX-87-641	88WPTY4 3	HWS	66.2	65.8	2.5	955	930	4	Q-FYELD, BCRGR
882174	PCMEX-87-663	88WPTY4 4	HWS	65.6	64.6	2.6	955	893	4	Q-FYELD, BCRGR
882175	PCMEX-87-703	88WPTY4 7	HWS	60.6	59.9	2.4	925	882	6	Q-MTIME, BCRGR
882176	PCMEX-87-724	88WPTY4 8	HWS	60.3	60.0	2.5	865	846	5	P-FYELD, Q-BCRGR
882177	PCMEX-87-727	88WPTY4 10	HWS	64.4	64.0	3.2	910	885	5	P-FYELD, Q-BCRGR
882178	PCMEX-87-745	88WPTY4 11	HWS	59.0	58.8	2.0	880	868	8	P-FYELD, Q-BCRGR, MTIME
882179	PCMEX-87-753	88WPTY4 12	HWS	60.5	60.4	2.2	905	899	7	P-FYELD, MTIME, BCRGR
882180	PCMEX-87-774	88WPTY4 13	SWS	56.1	56.6	2.2	880	910	7	P-FYELD, MTIME, BCRGR
882181	PCMEX-87-779	88WPTY4 15	HWS	63.5	62.6	4.2	975	919	5	P-FYELD, Q-BCRGR
882182	PCMEX-87-780	88WPTY4 16	HWS	61.3	60.6	3.5	860	817	5	P-FYELD, Q-BCRGR
882183	IBWSN-87-009	88WPTY4 19	HWS	62.7	61.8	4.2	945	889	3	P-FYELD
882184	IBWSN-87-032	88WPTY4 21	HWS	66.8	65.0	2.5	955	843	3	Q-FYELD, MTIME, BCRGR
882185	IBWSN-87-037	88WPTY5 3	HWS	64.0	61.7	4.4	1015	872	3	Q-FYELD
882186	IBWSN-87-038	88WPTY5 4	HWS	65.7	64.1	4.2	980	881	2	
882187	IBWSN-87-048	88WPTY5 5	HWS	67.4	65.1	4.2	1010	867	3	P-FYELD
882188	IBWSN-87-054	88WPTY5 7	HWS	64.5	62.5	2.9	935	811	3	P-FYELD
882189	IBWSN-87-070	88WPTY5 8	HWS	62.9	62.6	3.0	940	921	4	P-FYELD
882190	IBWSN-87-075	88WPTY5 9	HWS	61.8	62.1	2.3	810	829	8	P-FYELD, MTIME, BCRGR
882191	IBWSN-87-076	88WPTY5 10	HWS	59.3	59.5	2.5	770	782	7	P-FYELD, MTIME, BCRGR
882192	IBWSN-87-089	88WPTY5 14	HWS	66.2	65.9	4.7	1015	996	2	Note: Poor FYELD
882193	IBWSN-87-111	88WPTY5 18	HWS	64.9	62.6	3.5	1040	897	4	Q-BCRGR
882194	IBWSN-87-145	88WPTY6 3	HWS	59.4	60.2	2.2	785	835	7	P-MTIME, BCRGR
882195	IBWSN-87-149	88WPTY6 4	HWS	59.5	59.3	2.6	860	848	5	Q-BCRGR
882196	IBWSN-87-150	88WPTY6 5	HWS	60.2	60.3	2.6	855	861	5	Q-BCRGR
882197	IBWSN-87-157	88WPTY6 6	HWS	55.2	56.1	1.8	605	661	9	P-MTIME, LVOL, BCRGR
882198	IBWSN-87-161	88WPTY6 7	HWS	62.2	60.7	2.9	955	862	3	P-FYELD

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PENDLETON, OR

W.E. KRONSTAD

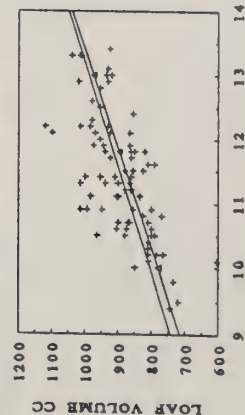
LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
882199	IBWSN-87-168	6/ 88WPTY6 8	HWS	63.6	70.8	0.36	87.3	10.6	63.3	6M
882200	IBWSN-87-225	6/ 88WPTY6 16	HWS	61.2	69.1	0.36	85.6	12.1	67.6	4H
882201	IBWSN-87-233	6/ 88WPTY6 20	HWS	60.4	68.2	0.32	86.7	12.1	62.8	8M
882202	IBWSN-87-235	88WPTY6 21	HWS	60.8	68.0	0.34	85.4	11.8	60.7	7M
882203	MCKAY	88WPTY7 1	HRS	60.4	70.0	0.32	88.7	10.9	61.6	6M
882204	BORAH	88WPTY7 2	HRS	62.8	72.6	0.28	93.5	10.9	61.9	3M
882205	IBWSN-87-242	6/ 88WPTY7 3	HWS	61.6	69.5	0.32	88.2	10.7	62.8	7M
882206	IBWSN-87-247	6/ 88WPTY7 4	HWS	62.8	66.3	0.32	85.1	11.4	65.8	4H
882207	IBWSN-87-251	5/ 88WPTY7 5	HWS	62.4	70.4	0.30	90.2	11.1	64.5	8M
882208	IBWSN-87-263	88WPTY7 6	HWS	62.0	68.1	0.39	83.1	10.3	63.3	3M
882209	IBWSN-87-267	5/ 88WPTY7 7	HWS	63.6	70.2	0.35	87.4	10.9	62.2	3M
882210	ISPTN-87-006	88WPTY7 8	HWS	62.8	71.1	0.32	89.9	10.7	62.9	3M
882211	ISPTN-87-014	88WPTY7 10	HWS	61.2	68.1	0.45	80.1	13.1	62.1	4M
882212	ISPTN-87-050	5/ 88WPTY7 14	HWS	62.8	71.4	0.41	85.5	12.9	62.3	7M
882213	ISPTN-87-051	5/ 88WPTY7 15	HWS	60.4	69.0	0.42	82.5	12.3	62.7	7M
882214	ISPTN-87-054	88WPTY7 17	HWS	64.8	67.2	0.38	82.6	12.1	61.4	4M
882215	ISPTN-87-057	88WPTY7 18	HWS	64.0	71.4	0.44	83.9	10.8	62.8	3M
882216	IBWSN-87-213	88WPTY7 19	HWS	59.6	65.6	0.44	77.9	10.7	62.9	3M
882217	PCMEX-87-146	88WPTY7 20	HWS	59.6	68.7	0.45	80.7	11.8	62.0	2H
882218	PCMEX-87-240	88WPTY7 21	HWS	59.6	67.9	0.44	80.2	11.1	63.1	3M
882219	PCMEX-87-521	88WPTY7 22	HWS	62.4	68.5	0.42	81.9	11.4	61.2	3M

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PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
882199	IBWSN-87-168	88WPT6 8	HWS	63.6	64.0	3.4	905	930	3	
882200	IBWSN-87-225	88WPT6 16	HWS	69.4	68.3	2.8	970	902	3	
882201	IBWSN-87-233	88WPT6 20	HWS	64.6	63.5	4.6	925	857	2	Q-FYELD
882202	IBWSN-87-235	88WPT6 21	HWS	62.2	61.4	4.0	850	800	4	Q-FYELD, LVOL, BCRGR
882203	MCKAY	88WPT7 1	HRS	62.2	62.3	3.6	1015	1021	2	
882204	BORAH	88WPT7 2	HRS	61.5	61.6	2.3	995	1001	2	
882205	IBWSN-87-242	88WPT7 3	HWS	63.2	63.5	4.0	900	919	4	Q-BCRGR
882206	IBWSN-87-247	88WPT7 4	HWS	66.9	66.5	3.0	1000	975	2	Note: Poor FYELD
882207	IBWSN-87-251	88WPT7 5	HWS	65.3	65.2	4.6	985	979	2	
882208	IBWSN-87-263	88WPT7 6	HWS	62.3	63.0	2.3	810	853	9	Q-FYELD, MTIME, P-BCRGR
882209	IBWSN-87-267	88WPT7 7	HWS	61.8	61.9	2.4	950	956	2	
882210	ISPTN-87-006	88WPT7 8	HWS	62.3	62.6	2.4	865	884	6	Q-BCRGR
882211	ISPTN-87-014	88WPT7 10	HWS	64.9	62.8	3.0	930	800	3	Q-FYELD, LVOL, BCRGR
882212	ISPTN-87-050	88WPT7 14	HWS	64.9	63.0	4.1	1020	902	2	
882213	ISPTN-87-051	88WPT7 15	HWS	64.7	63.4	3.4	980	899	2	
882214	ISPTN-87-054	88WPT7 17	HWS	63.2	62.1	2.9	865	797	8	P-FYELD, LVOL, BCRGR
882215	ISPTN-87-057	88WPT7 18	HWS	62.3	62.5	2.4	825	837	8	Q-MTIME, P-BCRGR
882216	IBWSN-87-213	88WPT7 19	HWS	62.3	62.6	2.1	870	889	7	P-FYELD, MTIME, BCRGR
882217	PCHEX-87-146	88WPT7 20	HWS	62.5	61.7	2.1	860	810	6	Q-FYELD, MTIME, BCRGR
882218	PCHEX-87-240	88WPT7 21	HWS	62.9	62.8	3.0	900	894	6	Q-FYELD, BCRGR
882219	PCHEX-87-521	88WPT7 22	HWS	61.3	60.9	2.4	860	835	9	Q-FYELD, MTIME, P-BCRGR

LOAF VOLUME VS PROTEIN
HWS PRELIMINARY YIELD TREAL

PROTEIN %

+ EXP CROSSES Δ EXPECTED

COMMENTS: The two check varieties were abnormally good in loaf volume (See accompanied plot). None of the experimental lines were equal, however, several were well above expected levels for their protein content but failed in other factors. The selections that appear most promising are footnoted. See "Remarks" for comments.

NURSCO 68

MADRAS, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
						<u>1/</u>		<u>1/</u>	<u>3/</u>	
882220 MCKAY		88AGYT1 1	HRS	63.2	71.7	0.34	89.5	9.8	61.2	6M
882221 BORAH		88AGYT1 2	HRS	63.6	70.6	0.32	89.5	11.3	59.9	2M
882222 BK85009		88AGYT1 4	HRS	63.2	69.5	0.46	81.0	9.9	62.4	4H
882223 BK85018		88AGYT1 5	HRS	65.2	69.3	0.35	86.5	9.5	62.5	6M
882224 BK85024		<u>6/88AGYT1 6</u>	HRS	64.4	70.2	0.38	85.9	11.1	62.3	3H
882225 BK85036		88AGYT1 9	HRS	64.4	68.6	0.38	84.2	11.7	63.7	5H
882226 BK85120		<u>6/88AGYT1 13</u>	HRS	63.2	72.2	0.34	90.0	11.1	62.8	6M
882227 BK85186		88AGYT1 16	HRS	66.0	69.2	0.32	87.9	10.4	61.5	3M
882228 BK85210		88AGYT1 21	HRS	64.0	69.2	0.35	86.4	9.7	60.1	4M
882229 BK85770		88AGYT1 22	HRS	64.4	70.3	0.41	84.4	10.1	62.9	5H
882230 BK85788		88AGYT1 25	HRS	63.6	68.7	0.42	82.2	9.6	59.7	4M
882231 BK85792		88AGYT1 26	HRS	64.4	66.6	0.37	82.6	10.9	62.5	3H
882232 BK85800		88AGYT1 28	HRS	62.0	64.8	0.44	77.1	9.4	61.8	5M
882233 BK85809		88AGYT1 31	HRS	65.2	70.4	0.40	85.0	11.9	63.6	3H
882234 BK85846		88AGYT1 33	HRS	62.0	69.5	0.40	84.1	9.5	60.7	8M
882235 BK85847		<u>6/88AGYT1 34</u>	HRS	64.4	69.2	0.41	83.3	11.7	63.8	5H
882236 BK85213		88AGYT2 4	HRS	64.4	68.5	0.38	84.1	11.4	62.8	4M
882237 BK85222		<u>6/88AGYT2 5</u>	HRS	63.6	70.7	0.39	85.9	10.8	62.4	3M
882238 BK85242		88AGYT2 8	HRS	63.6	68.3	0.35	85.4	10.5	63.4	6M
882239 BK85265		88AGYT2 10	HRS	65.6	68.8	0.35	86.0	10.0	61.8	6M
882240 BK85273		88AGYT2 11	HRS	64.8	67.9	0.33	86.1	9.5	62.3	8M
882241 BK85274		88AGYT2 12	HRS	64.8	68.2	0.33	86.4	9.7	61.3	7M
882242 BK85285		<u>6/88AGYT2 13</u>	HRS	64.8	68.7	0.37	84.9	10.3	63.9	7H
882243 BK85286A		<u>6/88AGYT2 14</u>	HRS	63.6	68.8	0.44	81.4	11.0	63.8	5H
882244 BK85308		88AGYT2 18	HRS	63.2	67.3	0.37	83.4	10.0	61.3	6M
882245 BK85309		88AGYTS 19	HRS	64.4	66.1	0.35	83.2	9.9	62.6	7M
882246 BK85345		88AGYT2 20	HRS	63.6	66.2	0.38	81.7	9.2	62.7	3M
882247 ALT851621-5		<u>6/88AGYT2 26</u>	HRS	62.8	71.2	0.36	88.1	10.2	60.1	4M
882248 ALT852011-2		<u>6/88AGYT2 30</u>	HRS	62.8	70.1	0.44	82.7	11.2	60.5	4M

1/ Observed Values Corrected to 14% Moisture Basis3/ Absorption at 14% Moisture Corrected to 11% Protein4/ Observed Values Corrected to 11% Protein5/ Particularly Promising Overall Quality Characteristics6/ Promising Overall Quality Characteristics

NURSCO 68

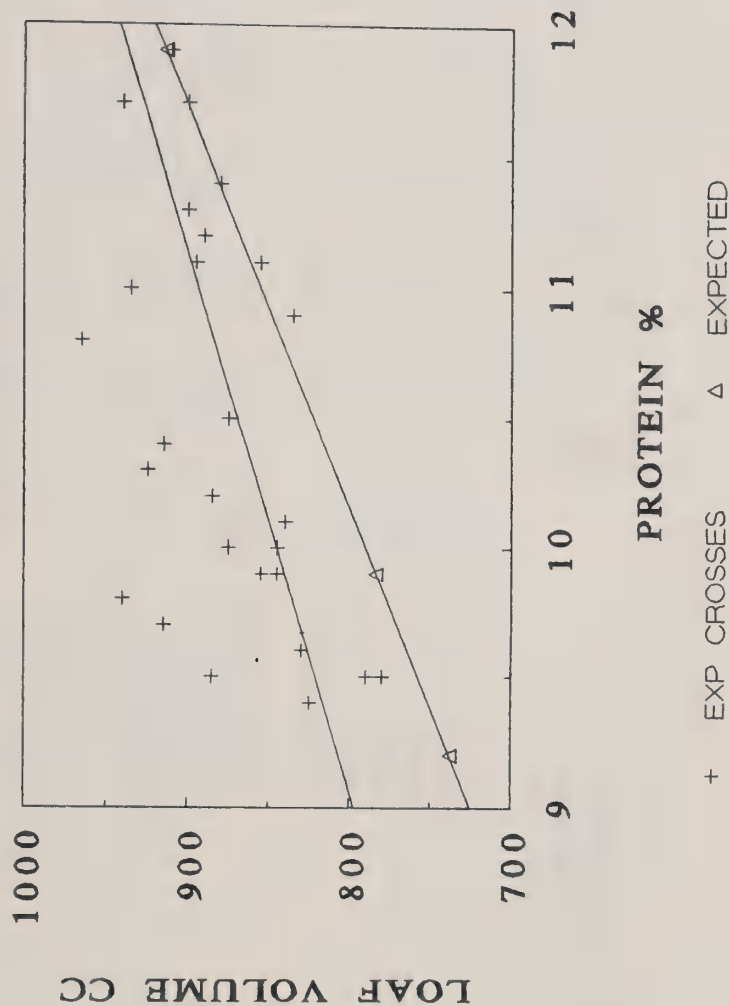
MADRAS, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC 3/	MTIME	LVOL	LVOLC 4/	BCRGR	RMKS
882220 MCKAY		88AGYT1 1	HRS	61.7	61.9	4.1	940	952	2	
882221 BORAH		88AGYT1 2	HRS	58.9	57.6	2.0	900	819	5	
882222 BK85009		88AGYT1 4	HRS	63.0	63.1	3.8	855	861	3	Q-P-MSCOR
882223 BK85018		88AGYT1 5	HRS	62.7	63.2	3.7	780	811	7	P-BCRGR
882224 BK85024		88AGYT1 6	HRS	64.1	63.0	3.6	895	827	5	Q-BCRGR (=Borah)
882225 BK85036		88AGYT1 9	HRS	66.1	64.4	4.1	900	795	7	Q-FYELD,BCRGR
882226 BK85120		88AGYT1 13	HRS	64.6	63.5	3.5	855	787	3	Q-LVOL, Excellent FYELD
882227 BK85186		88AGYT1 16	HRS	62.6	62.2	2.4	915	890	6	Q-MTINE,BCRGR
882228 BK85210		88AGYT1 21	HRS	60.5	60.8	3.2	655	674	8	P-LVOL,BCRGR
882229 BK85770		88AGYT1 22	HRS	63.7	63.6	4.1	840	834	7	P-BCRGR
882230 BK85788		88AGYT1 25	HRS	60.0	60.4	3.0	830	855	6	Q-FYELD,BCRGR
882231 BK85792		88AGYT1 26	HRS	64.1	63.2	2.5	835	779	6	P-FYELD, Q-MTINE,BCRGR
882232 BK85800		88AGYT1 28	HRS	61.9	62.5	3.7	825	862	5	P-FYELD, Q-BCRGR
882233 BK85809		88AGYT1 31	HRS	66.2	64.3	3.4	910	792	4	Q-LVOL,BCRGR
882234 BK85846		88AGYT1 33	HRS	60.9	61.4	4.1	790	821	7	P-BCRGR
882235 BK85847		88AGYT1 34	HRS	66.2	64.5	4.3	940	835	3	
882236 BK85213		88AGYT2 4	HRS	64.9	63.5	2.7	880	793	6	Q-FYELD,LVOL,BCRGR
882237 BK85222		88AGYT2 5	HRS	63.9	63.1	2.6	965	915	4	Q-BCRGR
882238 BK85242		88AGYT2 8	HRS	64.1	63.6	3.3	875	844	5	Q-FYELD,BCRGR
882239 BK85265		88AGYT2 10	HRS	62.5	62.5	3.7	845	845	6	Q-FYELD,BCRGR
882240 BK85273		88AGYT2 11	HRS	62.5	63.0	3.6	885	916	6	Q-FYELD,BCRGR
882241 BK85274		88AGYT2 12	HRS	61.7	62.0	4.0	915	934	6	Q-FYELD,BCRGR
882242 BK85285		88AGYT2 13	HRS	65.9	65.6	7.9	925	906	4	Q-FYELD,BCRGR
882243 BK85286A		88AGYT2 14	HRS	65.5	64.5	5.7	935	873	2	High Ash?
882244 BK85308		88AGYT2 18	HRS	62.0	62.0	4.5	875	875	6	Q-FYELD,BCRGR
882245 BK85309		88AGYTS 19	HRS	63.2	63.3	4.5	845	851	3	P-FYELD
882246 BK85345		88AGYT2 20	HRS	62.6	63.4	3.2	685	735	9	P-FYELD,LVOL,BCRGR
882247 ALT851621-5		88AGYT2 26	HRS	61.0	60.8	3.2	885	873	5	Q-BCRGR (=Borah)
882248 ALT852011-2		88AGYT2 30	HRS	62.4	61.2	3.1	890	816	4	High Ash

NURSCO 68

LOAF VOLUME VS PROTEIN ARGENTINE SPRING YT



COMMENTS: None of these selections appear equal to McKay in overall quality. A couple are equal to Borah, and others footnoted as promising have some questionable properties but may warrant further testing as they have strong agronomic considerations. The nursery as a whole was well above expected levels for loaf volume/protein response as shown above. They have good strong dough properties but were disappointing in crumb structure.

MURSCO 69

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
						1/		1/	3/	
882249 STEPHENS		88SWRAN 1	SWW	62.4	72.1	0.36	84.3	6.8	53.8	2L
882250 STEPHENS		88HWRPN 2	SWW	61.5	73.4	0.35	86.5	8.0	54.5	2M
882251 HILL		88SWRAN 4	SWW	60.9	72.6	0.36	85.0	6.4	55.1	5L
882252 MALCOLM		88SWRAN 7	SWW	62.1	70.6	0.35	80.5	6.3	55.3	5L
882253 OR8502288H		88SWRAN 31	SWW	62.2	69.1	0.32	83.0	7.3	57.6	3L
882254 OR8500874P		6/ 88SWRAN 32	SWW	63.6	71.1	0.35	82.4	6.9	57.6	2L
882255 OR8500374H		88SWRAN 37	SWW	62.4	68.0	0.46	71.4	7.5	58.7	4L
882256 OR8505311P		88SWRAN 50	SWW	61.8	69.9	0.38	78.7	6.6	57.9	8L
882257 OR8500378H		88SWRAN 52	HWW	63.5	66.1	0.41	71.1	7.9	60.7	4L
882258 OR8500305P		88SWRAN 53	HWW	64.7	67.5	0.36	78.3	8.0	59.4	2L
882259 OR8500863H		88SWRAN 56	HWW	65.4	69.5	0.37	79.2	10.0	60.8	6M
882260 OR860049		88HWRPN 22	HWW	65.4	68.1	0.43	74.8	8.4	59.0	5L
882261 OR860341		88HWRPN 42	HWW	63.6	70.1	0.38	81.4	9.9	63.3	3M
882262 OR860471		6/ 88HWRPN 45	HWW	63.6	71.0	0.32	84.8	8.9	60.8	3M
882263 OR860701		88HWRPN 51	HWW	64.1	71.3	0.38	82.1	9.1	58.6	5M

1/ Observed Values Corrected to 14% Moisture Basis.

3/ Absorption at 14% Moisture Corrected to 8% Protein

4/ Observed Values Corrected to 8% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

OSU SEMI-HARD WINTER SELECTIONS

NURSCO 69

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR
					<u>3/</u>			<u>4/</u>	
882249 STEPHENS		88SWRAN 1	SWW						
882250 STEPHENS		88HWRPN 2	SWW						
882251 HILL		88SWRAN 4	SWW						
882252 MALCOLM		88SWRAN 7	SWW						
882253 OR8502288H		88SWRAN 31	SWW						
882254 OR8500874P		88SWRAN 32	SWW						
882255 OR8500374H		88SWRAN 37	SWW						
882256 OR850311P		88SWRAN 50	SWW						
882257 OR8500378H		88SWRAN 52	HWW	61.3	61.4	3.5	645	651	9
882258 OR8500305P		88SWRAN 53	HWW						
882259 OR8500863H		88SWRAN 56	HWW	63.5	61.5	3.1	790	666	7
882260 OR860049		88HWRPN 22	HWW						
882261 OR860341		88HWRPN 42	HWW	65.9	64.0	2.2	890	772	8
882262 OR860471		88HWRPN 45	HWW						
882263 OR860701		88HWRPN 51	HWW	60.4	59.3	3.2	755	687	9

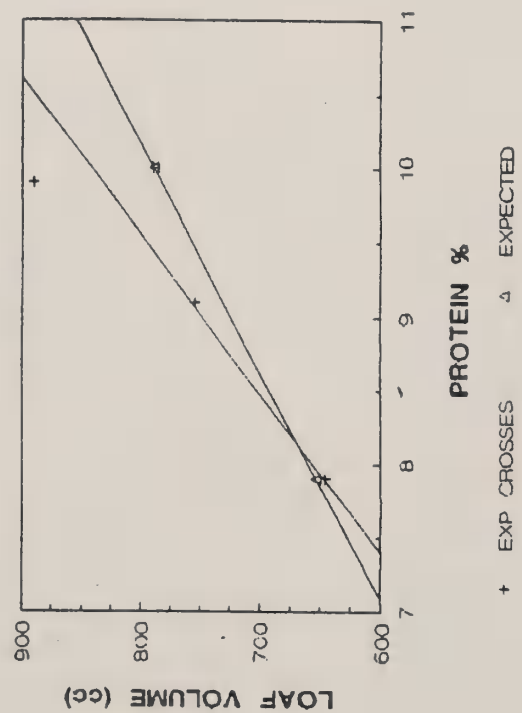
NURSCO 69

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	COOI	COOIC 4/	WTIN	NOSCOR	RMKS
882249 STEPHENS		88SWRAN 1	SWW	9.12	8.99	334	74	
882250 STEPHENS		88HWRPN 2	SWW	8.66	8.66	345	74	
882251 HILL		88SWRAN 4	SWW	8.87	8.70	332	76	
882252 MALCOLM		88SWRAN 7	SWW	8.70	8.51	325	74	Q-FYELD
882253 OR8502288H		88SWRAN 31	SWW	8.93	8.85	321	77	P-FYELD
882254 OR8500874P		88SWRAN 32	SWW	8.77	8.65	341	76	
882255 OR8500374H		88SWRAN 37	SWW	8.40	8.34	322	75	P-FYELD, P-MSCOR, P-CODI
882256 OR8505311P		88SWRAN 50	SWW	8.69	8.53	321	75	Q-FYELD, Q-MSCOR, Q-CODI
882257 OR8500378H		88SWRAN 52	HWW			338	76	VP-FYELD, P-MSCOR, P-BCRGR
882258 OR8500305P		88SWRAN 53	HWW			363	78	VP-FYELD, Q-MSCOR
882259 OR8500863H		88SWRAN 56	HWW			343	72	P-FYELD, Q-MSCOR, P-BCRGR, P-NOSCOR
882260 OR8600049		88HWRPN 22	HWW			340	72	P-FYELD, P-MSCOR, P-NOSCOR
882261 OR860341		88HWRPN 42	HWW			367	75	Q-FYELD, P-MTIME, P-BCRGR
882262 OR860471		88HWRPN 45	HWW			335	76	
882263 OR860701		88HWRPN 51	HWW			333	74	P-BCRGR

LOAF VOLUME VS PROTEIN



COMMENTS: The soft wheats would probably have shown better noodle quality with higher flour protein. All of the hard white wheats had poor bread crumb grain quality. Three of the hard white wheats had poor mixing properties and were not bread baked. Two of the selections showed promising quality characteristics.

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

HARD SPRING NURSERY

NURSCO 70

KLAMATH FALLS, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
882264 YECORA ROJO		88KFHRS 1	HRS	64.0	72.2	0.34	90.1	14.5	66.0	3H
882265 WESTBRED 906R		88KFHRS 2	HRS	63.2	71.8	0.33	90.2	13.3	65.2	5H
882266 SPILLMAN		88KFHRS 3	HRS	59.2	72.4	0.37	88.8	13.0	64.4	3H
882267 KLASIC		88KFHRS 4	HWS	64.0	72.6	0.31	92.1	14.5	65.9	3H
882268 ORS 8410		5/ 88KFHRS 5	HRS	65.6	72.7	0.34	90.6	11.6	65.8	4H
882269 ORS 8417		6/ 88KFHRS 6	HWS	63.2	68.0	0.36	84.7	11.9	66.3	4H
882270 ORS 8509		88KFHRS 7	HRS	64.8	71.0	0.33	89.4	12.4	66.0	6M
882271 ORS 8511		88KFHRS 8	HRS	62.8	70.4	0.35	87.7	12.5	63.7	4M
882272 ORS 8512		6/ 88KFHRS 9	HRS	63.6	70.2	0.34	88.1	12.6	64.2	6M
882273 ORS 8413		88KFHRS 10	HWS	63.6	72.9	0.34	90.8	10.9	65.9	4M
882274 PC790647		88KFHRS 11	SWS	63.2	66.5	0.27	87.8	10.4	64.5	2H

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 12% Protein

4/ Observed Values Corrected to 12% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

NURSCO 70

KLAMATH FALLS, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC 3/	MTIME	LVOL	LVOLC 4/	BCRGR	RMKS
882264	YECORA ROJO	88KFHRS 1	HRS	68.2	66.7	2.9	1050	957		4
882265	WESTBRED 906R	88KFHRS 2	HRS	66.2	65.9	3.1	1085	1066		4
882266	SPILLMAN	88KFHRS 3	HRS	65.1	65.1	3.0	1095	1095		2
882267	KLASIC	88KFHRS 4	HWS	68.1	66.6	3.2	1220	1127		4
882268	ORS 8410	88KFHRS 5	HRS	65.1	66.5	3.6	1030	1117		3
882269	ORS 8417	88KFHRS 6	HWS	65.9	67.0	3.3	1045	1113		2 Q-FYELD
882270	ORS 8509	88KFHRS 7	HRS	66.1	66.7	2.4	955	992		7 Q-MTIME, P-BCRGR
882271	ORS 8511	88KFHRS 8	HRS	63.9	64.4	2.3	925	956		6 Q-MTIME, P-BCRGR
882272	ORS 8512	88KFHRS 9	HRS	65.0	65.4	2.9	985	1010		4 Q-BCRGR
882273	ORS 8413	88KFHRS 10	HWS	64.0	66.1	2.8	860	990		6 P-BCRGR
882274	PC790647	88KFHRS 11	SWS	62.1	64.7	1.4	875	1031		8 P-FYELD, MTIME, BCRGR

COMMENTS: The bread crumb grain of the standard varieties were not up to their expected quality. Selection 5, 6, 8, 9 appear equal or better than any of the check varieties in overall quality.

NURSCO 71

KANSAS

LABNUM	VARIETY	IDNO	CLASS	FPROT	FABS	FPEAK	FSTAB	MABS	MTYPE
882275 801			5/ HRW	12.5	59.3	6.5	11.5	65.5	4H
882276 802			5/ HRW	12.6	56.4	6.5	16.5	65.3	5H
882277 803			HRW						
882278 804			HRW	12.4	58.7	5.5	13.5	63.4	6M
882279 805			HRW	13.5	59.7	5.0	7.0	65.7	3H
882280 806			6/ HRW	13.5	57.4	7.5	15.5	65.0	5H
882281 807			6/ HRW	13.0	56.5	8.0	26.5	67.8	6H
882282 808			6/ HRW	12.5	57.1	6.0	15.0	65.6	5H
882283 809			6/ HRW	13.0	58.3	7.5	11.5	64.9	3H
882284 810			HRW	12.2	58.2	8.5	16.0	65.4	5H
882285 811			5/ HRW	14.4	59.0	11.5	21.0	67.0	6H
882286 812			HRW	14.0	60.1	9.5	13.5	67.2	4H
882287 813			6/ HRW	12.6	57.0	7.0	15.5	65.5	4H

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

HARD RED WINTER WHEAT QUALITY COUNCIL

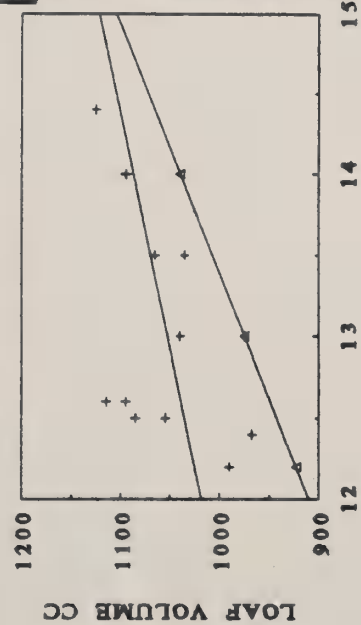
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NURSCO 71

KANSAS

LABNUM	VARIETY	IDNO	CLASS	BABS	MTIME	LVOL	LVOLC	BCRGR	RMKS
882275 801			HRW	67.2	3.6	1055	1086	2	Good Volume
882276 802			HRW	67.0	3.9	1115	1140	2	Excellent
882277 803			HRW						
882278 804			HRW	66.6	4.0	967	1004	4	Q-BCRGR
882279 805			HRW	66.9	2.8	1065	1034	4	Q-BCRGR
882280 806			HRW	66.7	4.8	1035	1004	2	Good Volume
882281 807			HRW	69.5	6.8	975	975	3	Sl. Q-BCRGR
882282 808			HRW	67.3	4.5	1085	1116	3	Sl. Q-BCRGR
882283 809			HRW	66.6	3.8	1040	1040	2	Good Volume
882284 810			HRW	67.6	4.7	990	1040	4	Q-BCRGR
882285 811			HRW	68.7	5.8	1125	1038	2	Excellent
882286 812			HRW	67.9	4.3	1095	1033	5	Q-BCRGR
882287 813			HRW	67.2	4.1	1095	1120	2	Good Volume

LOAF VOLUME VS PROTEIN
HARD RED WINTER WHEAT QUALITY COUNCIL



Statistics
Size 12
Total 12642
Mean 1053.5
Maximum 1125
Minimum 967
Standard Dev. 53.654617
Standard Error 15.488754
95% Confidence 30.357959
99% Confidence 39.960987
a0 601.832489
a1 34.69937
a2 0
a3 0
a4 0
a5 0
a6 0
Rval 0.447925

Graph A
12
12642
1053.5
1125
967
53.654617
15.488754
30.357959
39.960987
601.832489
34.69937
0
0
0
0
0
0
0.447925

Graph B
3
2938
979.333333
1040
923
58.620247
33.844415
66.335054
87.318591
130
65
0
0
0
0
0
1

COMMENTS: These flours were evaluated in cooperation with the Hard Winter Wheat Quality Council, Manhattan, KS. All gave loaf volumes above expected levels for their protein content (see plot). A few were coarse and heavy type crumb structure (see "Remarks").

NURSCO 72

FARGO, ND

D.D. KASARDA

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
882288 ANZA		CWC-150	HRS	59.6	72.1	0.36	88.7	13.3	63.2	3M
882289 YECORA ROJO		CWC-141	HRS	58.4	69.2	0.43	82.2	14.7	66.2	7H
LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
882288 ANZA		CWC-150	HRS	63.2	63.9	2.3	1020	1063	3	
882289 YECORA ROJO		CWC-141	HRS	68.6	67.9	7.0	1165	1122	2	

COMMENTS: These were baked in cooperation with the ARS, WRRRC, Albany, CA. Loaf volume of both were better than expected for the protein levels (Anza 995cc; Yecora Rojo 1085). Anza also was atypically better than expected in bread crumb grain.

NURSCO 73

LABNUM	VARIETY	IDNO	CLASS	TWT	WMIST	WPROT	FYIELD	FASH 1/	MSCOR	FPROT 1/
882290 4520		10-28	SWW	62.0	10.7	9.7	70.7	0.30	84.9	8.9
882291 4521		10-29	SWW	62.1	9.7	10.1	70.9	0.29	84.5	8.9
882292 7864		10-31	SWW	62.1	10.2	10.4	68.7	0.32	79.6	9.3
882293 7865		11-1	SWW	62.0	10.2	10.5	68.8	0.30	80.4	8.8
882294 4522		11-2	SWW	62.1	10.2	10.5	69.4	0.29	81.3	8.8
882295 7888		11-2	SWW	61.7	9.0	10.4	67.5	0.28	80.5	8.7
882296 3799		11-2	SWW	61.7	9.0	10.5	70.2	0.27	84.9	9.2
882297 4524		11-3	SWW	62.3	10.3	10.3	68.7	0.31	81.2	8.3
882298 7867		11-3	SWW	62.2	10.0	9.3	69.9	0.30	82.2	7.8
882299 4525		11-5	SWW	61.5	10.1	10.1	68.7	0.31	80.5	8.6
882300 4924		11-5	SWW	62.1	9.6	10.2	68.4	0.30	80.6	8.7
882301 7868		11-5	SWW	61.7	10.2	8.8	70.3	0.30	83.3	8.2
882302 7869		11-6	SWW	62.7	9.8	9.4	70.3	0.29	83.9	8.1
882303 4527		11-7	SWW	62.0	10.9	10.6	71.1	0.32	82.5	9.3
882304 7870		11-7	SWW	61.3	9.5	10.5	68.8	0.30	79.8	8.8
882305 7871		11-8	SWW	61.7	10.5	9.8	67.3	0.32	76.1	8.2
882306 4529		11-9	SWW	62.7	10.1	10.3	68.9	0.35	77.5	8.8
882307 4926		11-9	SWW	63.7	9.1	9.8	69.0	0.35	77.9	8.6
882308 4928		11-11	SWW	62.5	10.1	9.9	72.5	0.36	83.1	8.5
882309 7872		11-11	SWW	62.3	10.1	9.6	70.4	0.39	79.5	8.0
882310 9304		11-11	SWW	62.0	10.1	10.5	68.9	0.39	77.2	8.7
882311 4530		11-12	SWW	63.0	10.3	10.7	71.5	0.38	80.4	8.7
882312 4531		11-13	SWW	62.1	9.8	10.7	70.3	0.38	78.7	8.5
882313 646		11-14	SWW	63.1	9.5	9.5	70.7	0.40	78.6	8.6
882314 647		11-14	SWW	62.8	9.9	10.1	72.0	0.38	81.9	8.8
882315 648		11-14	SWW	62.4	10.2	10.2	71.4	0.39	78.9	7.9
882316 649		11-14	SWW	62.6	9.9	8.9	70.4	0.38	79.3	8.4
882317 650		11-14	SWW	63.3	9.8	10.2	70.1	0.37	78.0	8.6
882318 651		11-14	SWW	62.2	10.1	9.8	66.4	0.39	73.1	8.5
882319 652		11-14	SWW	62.7	9.3	10.1	70.5	0.38	80.0	8.9

NURSCO 73

LABNUM	VARIETY	IDNO	CLASS	MABS	FABS	FPEAK	FSTAB	COOI	CAVOL	SCSOR
882290 4520		10-28	SWW	54.0	53.1	2.3	4.2	8.85	1260	71.0
882291 4521		10-29	SWW	53.9	53.4	3.1	3.5	8.77	1285	76.0
882292 7864		10-31	SWW	54.6	53.6	3.3	4.0	9.12	1260	73.0
882293 7865		11-1	SWW	54.1	54.1	1.4	4.5	8.87	1295	75.0
882294 4522		11-2	SWW	53.1	53.5	2.2	2.8	8.86	1245	72.0
882295 7888		11-2	SWW	54.8	53.4	1.5	4.2	8.76	1355	81.0
882296 3799		11-2	SWW	53.9	52.9	2.0	3.8	8.87	1325	79.0
882297 4524		11-3	SWW	53.5	52.8	2.0	3.5	8.80	1330	80.0
882298 7867		11-3	SWW	52.0	52.5	1.8	3.0	8.77	1280	75.0
882299 4525		11-5	SWW	53.2	52.2	1.5	3.2	9.27	1310	76.0
882300 4924		11-5	SWW	53.4	52.9	1.7	3.9	8.91	1285	76.0
882301 7868		11-5	SWW	53.2	53.6	1.4	2.6	8.80	1275	74.0
882302 7869		11-6	SWW	52.4	52.8	1.4	3.2	8.84	1240	71.0
882303 4527		11-7	SWW	54.8	54.5	1.3	2.9	8.87	1245	72.0
882304 7870		11-7	SWW	53.8	53.3	2.3	3.5	9.31	1255	75.0
882305 7871		11-8	SWW	54.3	53.5	1.5	3.2	8.83	1220	73.0
882306 4529		11-9	SWW	54.6	53.8	2.6	4.3	9.07	1295	76.0
882307 4926		11-9	SWW	54.6	53.3	1.8	3.8	8.91	1320	78.0
882308 4928		11-11	SWW	53.4	52.5	1.8	3.8	9.12	1270	75.0
882309 7872		11-11	SWW	51.3	52.8	1.5	2.8	8.81	1220	71.0
882310 9304		11-11	SWW	52.3	53.4	1.6	2.6	8.87	1260	75.0
882311 4530		11-12	SWW	52.8	53.3	1.7	3.1	9.00	1245	74.0
882312 4531		11-13	SWW	52.5	53.0	2.3	3.9	8.80	1200	67.0
882313 646		11-14	SWW	52.5	53.1	1.5	3.4	9.04	1255	77.0
882314 647		11-14	SWW	52.8	52.8	2.0	3.2	8.71	1240	74.0
882315 648		11-14	SWW	52.0	53.2	1.9	3.2	8.79	1260	75.0
882316 649		11-14	SWW	52.7	53.0	1.6	3.3	9.01	1270	77.0
882317 650		11-14	SWW	52.9	52.9	2.2	3.9	8.70	1240	74.0
882318 651		11-14	SWW	52.6	52.6	2.0	3.7	9.23	1195	71.0
882319 652		11-14	SWW	52.0	53.4	1.5	3.7	8.84	1205	71.0

NURSCO 73

LABNUM	VARIETY	IDNO	CLASS	WTIN	NOSCOR	Wheat F.N.	Wheat DSI	RMKS
882290 4520		10-28	SWW	352	74	370	.077	
882291 4521		10-29	SWW	347	72	488	.068	
882292 7864		10-31	SWW	352	73	377	.068	
882293 7865		11-1	SWW	355	72	333	.103	
882294 4522		11-2	SWW	344	72	395	.064	
882295 7888		11-2	SWW	329	70	398	.084	
882296 3799		11-2	SWW	323	71	392	.067	
882297 4524		11-3	SWW	329	72	366	.065	
882298 7867		11-3	SWW	316	73	370	.076	
882299 4525		11-5	SWW	327	72	420	.062	
882300 4924		11-5	SWW	328	72	390	.069	
882301 7868		11-5	SWW	327	73	382	.076	
882302 7869		11-6	SWW	310	73	478	.089	
882303 4527		11-7	SWW	332	72	426	.096	
882304 7870		11-7	SWW	337	72	378	.096	
882305 7871		11-8	SWW	349	74	369	.080	
882306 4529		11-9	SWW	342	72	416	.089	
882307 4926		11-9	SWW	343	73	358	.093	
882308 4928		11-11	SWW	349	73	382	.074	
882309 7872		11-11	SWW	343	74	398	.079	
882310 9304		11-11	SWW	325	73	414	.074	
882311 4530		11-12	SWW	324	71	391	.068	
882312 4531		11-13	SWW	319	71	420	.094	
882313 646		11-14	SWW	307	73	376	.076	
882314 647		11-14	SWW	317	72	396	.064	
882315 648		11-14	SWW	333	71	389	.064	
882316 649		11-14	SWW	326	73	419	.067	
882317 650		11-14	SWW	330	74	375	.074	
882318 651		11-14	SWW	322	74	350	.106	
882319 652		11-14	SWW	330	72	378	.089	

NURSCO 73

LABNUM	VARIETY	IDNO	CLASS	TWT	WMIST	WPROT	FYIELD	FASH	MSCOR	FPROT
882320 653		11-14	SWW	62.6	10.1	10.4	69.3	0.37	76.9	8.7
882321 654		11-14	SWW	62.8	9.6	10.2	69.2	0.36	76.5	9.1
882322 655		11-14	SWW	63.1	9.8	10.0	68.7	0.36	76.8	8.8
882323 656		11-14	SWW	62.7	9.3	10.1	69.8	0.37	77.6	8.9
882324 4532		11-14	SWW	62.5	10.0	10.3	69.6	0.35	79.3	8.9
882325 7873		11-14	SWW	63.3	10.2	10.0	70.2	0.40	78.6	9.0
882326 9305		11-14	SWW	62.0	9.1	10.1	68.7	0.39	76.3	9.0
882327 9306		11-14	SWW	62.3	9.6	9.7	68.5	0.38	76.3	9.4
882328 630		11-14	SWW	62.7	9.6	10.4	70.5	0.38	80.0	9.0
882329 631		11-15	SWW	63.0	9.4	10.2	69.3	0.36	79.3	9.0
882330 7874		11-15	SWW	61.8	9.4	10.0	69.1	0.36	78.6	9.0
882331 9307		11-15	SWW	62.1	9.3	10.0	68.4	0.38	76.8	8.9
882332 9308		11-15	SWW	62.3	10.0	9.7	69.7	0.42	76.3	8.8
882333 628		11-17	SWW	62.8	9.5	10.5	70.8	0.39	79.5	9.3
882334 4930		11-17	SWW	62.1	9.5	10.3	69.7	0.39	77.7	9.2
882335 7876		11-18	SWW	62.4	9.9	9.9	70.5	0.39	78.6	9.0
882336 7878		11-19	SWW	62.0	9.8	9.8	70.8	0.39	80.0	9.0
882337 4933		11-20	SWW	62.2	9.3	9.9	70.8	0.40	79.5	9.2
882338 4540		11-21	SWW	62.1	10.3	9.9	70.4	0.40	77.9	9.2
882339 4877		11-21	SWW	62.0	10.3	9.8	69.1	0.38	77.5	8.6
882340 9319		11-21	SWW	61.8	10.3	9.9	67.4	0.37	74.1	8.8
882341 9321		11-21	SWW	62.4	9.6	10.5	68.3	0.40	74.8	9.3
882342 4653		11-22	SWW	62.3	10.2	10.6	69.3	0.38	77.4	9.2
882343 9323		11-22	SWW	62.5	9.6	10.7	67.9	0.37	76.0	9.3
882344 9324		11-22	SWW	62.3	9.0	11.4	69.3	0.38	78.0	9.5

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 9% Protein

4/ Observed Values Corrected to 9% Protein

5/

Particularly Promising Overall Quality Characteristics

6/

Promising Overall Quality Characteristics

NURSCO 73

LABNUM	VARIETY	IDNO	CLASS	MABS	FABS	FPEAK	FSTAB	CODI	CAVOL	SCSOR
882320 653		11-14	SHW	54.0	54.2	2.0	3.2	8.75	1220	70.0
882321 654		11-14	SHW	55.5	54.5	1.7	3.4	8.87	1245	74.0
882322 655		11-14	SHW	55.8	54.6	2.4	4.3	8.86	1290	77.0
882323 656		11-14	SHW	55.1	54.1	2.1	3.1	9.01	1250	71.0
882324 4532		11-14	SHW	55.1	54.5	2.1	3.6	8.94	1230	69.0
882325 7873		11-14	SHW	54.1	54.6	1.8	3.5	8.73	1265	76.0
882326 9305		11-14	SHW	54.9	54.9	1.3	3.3	8.79	1270	74.0
882327 9306		11-14	SHW	54.8	54.5	1.5	3.2	8.79	1270	74.0
882328 630		11-14	SHW	55.8	54.3	2.5	3.0	8.67	1290	76.0
882329 631		11-15	SHW	55.7	53.7	1.6	2.9	9.04	1280	75.0
882330 7874		11-15	SHW	55.7	53.7	1.6	2.9	9.04	1280	75.0
882331 9307		11-15	SHW	55.7	54.3	1.4	2.8	8.91	1270	75.0
882332 9308		11-15	SHW	57.6	55.1	1.5	3.2	8.71	1210	70.0
882333 628		11-17	SHW	55.6	53.6	1.7	3.3	8.94	1240	73.0
882334 4930		11-17	SHW	57.2	55.2	3.2	3.5	8.69	1230	73.0
882335 7876		11-18	SHW	55.5	53.3	1.8	3.2	8.81	1185	69.0
882336 7878		11-19	SHW	54.9	53.4	1.3	2.9	8.80	1260	72.0
882337 4933		11-20	SHW	56.1	54.3	2.2	3.1	9.29	1245	70.0
882338 4540		11-21	SHW	56.4	54.4	2.4	3.4	8.90	1250	72.0
882339 4877		11-21	SHW	58.2	55.5	2.6	3.5	8.85	1260	75.0
882340 9319		11-21	SHW	58.4	54.1	1.9	3.5	9.26	1225	70.0
882341 9321		11-21	SHW	57.0	54.0	1.9	3.4	8.75	1235	74.0
882342 4653		11-22	SHW	57.3	54.2	2.5	4.0	8.75	1285	76.0
882343 9323		11-22	SHW	56.2	53.9	1.8	3.9	8.89	1250	73.0
882344 9324		11-22	SHW	56.9	53.9	1.5	4.5	8.84	1260	71.0

NURSCO 73

LABNUM	VARIETY	IDNO	CLASS	WTIN	NOSCOR	Wheat F.N.	Wheat DSI	RMKS
882320 653		11-14	SWW	332	71	413	.106	
882321 654		11-14	SWW	324	70	372	.073	
882322 655		11-14	SWW	322	70	386	.066	
882323 656		11-14	SWW	334	71	351	.067	
882324 4532		11-14	SWW	331	71	401	.067	
882325 7873		11-14	SWW	340	73	379	.059	
882326 9305		11-14	SWW	338	75	347	.091	
882327 9306		11-14	SWW	330	73	386	.067	
882328 630		11-14	SWW	316	71	365	.078	
882329 631		11-15	SWW	323	73	461	.059	
882330 7874		11-15	SWW	323	73	371	.055	
882331 9307		11-15	SWW	330	73	349	.121	
882332 9308		11-15	SWW	324	74	360	.094	
882333 628		11-17	SWW	341	74	401	.056	
882334 4930		11-17	SWW	319	71	368	.059	
882335 7876		11-18	SWW	337	74	332	.063	
882336 7878		11-19	SWW	335	74	386	.064	
882337 4933		11-20	SWW	323	72	398	.070	
882338 4540		11-21	SWW	328	73	356	.063	
882339 4877		11-21	SWW	326	73	393	.064	
882340 9319		11-21	SWW	319	72	378	.061	
882341 9321		11-21	SWW	344	74	470	.062	
882342 4653		11-22	SWW	339	71	355	.072	
882343 9323		11-22	SWW	347	74	397	.059	
882344 9324		11-22	SWW	342	74	405	.072	

COMMENTS: Analysis were done in cooperation with U.S. Wheat Associates, Inc. who are conducting an on-going study to determine the variability of major wheat quality factors among export cargos of Western White Wheat. This phase of the study were samples collected during the period of Oct/November, 1988. Page 3 presents a Summary Table of the range and means of the quality factors measured.

USWA X

STATISTICAL SUMMARY

NURSCO 73

N Obs	Variable	N	Minimum	Maximum	Mean	Std Dev
55	TWT	55	61.30000000	63.70000000	62.34000000	0.4825089
	WMIST	55	9.00000000	10.90000000	9.8345455	0.4393675
	WPROT	55	8.80000000	11.40000000	10.1036364	0.4513205
	FYELD	55	66.40000000	72.50000000	69.60000000	1.2157912
	FASH	55	0.27000000	0.42000000	0.3565455	0.0396381
	MSCOR	55	73.10000000	84.90000000	79.1018182	2.6205379
	FPROT	55	7.80000000	9.50000000	8.8036364	0.3829533
	MABS	55	51.30000000	58.40000000	54.50000000	1.7171251
	FABS	55	52.20000000	55.50000000	53.6727273	0.7504208
	FPEAK	55	1.30000000	3.30000000	1.9090909	0.4765900
	FSTAB	55	2.60000000	4.50000000	3.4418182	0.4724604
	CODI	55	8.67000000	9.31000000	8.8960000	0.1608381
	CAVOL	55	1185.00	1355.00	1258.82	34.0881705
	SCSOR	55	67.00000000	81.00000000	73.7818182	2.8394764
	WTIN	55	307.00000000	355.00000000	331.5272727	11.1186439
	NOSCOR	55	70.00000000	75.00000000	72.4909091	1.2303677
	WFN	55	332.00000000	488.00000000	388.6181818	32.6839472
	WDSI	55	0.05500000	0.12100000	0.0748909	0.0147053

NURSCO 74

PULLMAN, WA

C.F. KONZAK

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
882345 WPB906R		WPB906R	HRS	62.4	71.6	0.29	92.0	11.1	61.4	6M
882346 NOMAD		GP5594	HRS	62.6	69.9	0.29	90.2	11.2	58.3	4M
882347 WAMPUM		CI017691	HRS	62.2	72.1	0.30	92.0	10.6	61.8	6M

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	BCRGR	RMKS
882345 WPB906R		WPB906R	HRS	63.2	63.1	4.2	940	934	3
882346 NOMAD		GP5594	HRS	61.2	61.0	2.6	805	793	8
882347 WAMPUM		CI017691	HRS	61.6	62.0	3.5	955	980	2

COMMENTS: Nomad (GP5594) is 1-2% low in flour yield, short to medium in dough mixing time, and quite low in loaf volume and very poor crumb grain. It should not be recommended for area growers.

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

FIRST LINE SEEDS

J.A. BRITT

MOSES LAKE, WA

NURSCO 75

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	CODI
						<u>1/</u>			<u>3/</u>	
882348 LEXUS		.	SWS	62.2	70.8	0.43	78.0	11.7	56.4	8.77
882349 LANDMARK		JB0010	SWS	60.4	68.4	0.41	75.4	10.8	56.0	8.91
882350 EDWALL		PI477919	SWS	60.9	70.9	0.40	80.2	9.2	58.0	8.74
882351 8822		<u>6/</u> .	SWS	63.7	72.3	0.41	81.9	9.9	56.1	9.05
882352 8823		<u>6/</u> .	SWS	63.1	72.1	0.40	82.4	9.9	56.2	9.17
882353 8825		<u>5/</u> .	SWS	63.5	72.3	0.40	82.3	9.0	56.5	9.09

LABNUM	VARIETY	IDNO	CLASS	CODIC	MTYPE	CAVOL	SCSOR	RMKS
				<u>4/</u>				
882348 LEXUS		.	SWS	8.96	2M	1135	55.0	Very Poor SCSOR
882349 LANDMARK		JB0010	SWS	9.00	2M	1205	70.0	Q-FYELD
882350 EDWALL		PI477919	SWS	8.65	2M	1275	75.0	
882351 8822		.	SWS	9.04	1M	1285	73.0	Q-SCSOR
882352 8823		.	SWS	9.16	1M	1265	75.0	
882353 8825		.	SWS	8.98	2M	1345	80.0	

COMMENTS: The three new soft white spring selections submitted by First Line Seeds are equal or better than Edwall in overall quality. Selection #8825 is very good quality.

1/ Observed Values corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 10% Protein

4/ Observed Values Corrected to 10% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
882354	906R-A WHITE FLOUR	.	HRS	62.2	66.2	0.41	73.0	11.0	62.7	6M
882355	906R-B WHITE FLOUR	.	HRS	58.9	68.2	0.42	76.2	12.7	62.6	8M
882356	906R-A WHOLE WHEAT FLOUR	.	HRS			0.60	63.4	12.2	64.9	4M
882357	906R-B WHOLE WHEAT FLOUR	.	HRS			0.60	67.2	13.6	63.4	4M
HRS Long Term Avg.					70.9	0.41	84.3	11.2	63.7	4M

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC 3/	MTIME	LVOL	LVOLC 4/	BCRGR	RMKS
882354	906R-A WHITE FLOUR	.	HRS	62.4	63.4	3.6	870	932	6	
882355	906R-B WHITE FLOUR	.	HRS	64.0	63.3	4.2	895	852	3	
882356	906R-A WHOLE WHEAT FLOUR	.	HRS	65.8	65.6	3.6	530	518	9	
882357	906R-B WHOLE WHEAT FLOUR	.	HRS	65.7	64.1	4.4	590	491	9	
HRS Long Term Avg.				63.7	4.4	1014			2	

COMMENTS: These two samples of 906R are both poorer than expected from the long term average of HRS wheats in both milling and baking characteristics. Sample "B" was considerably better than "A" in overall milling and baking (when protein difference of 1.7% is considered). The whole wheat baking results are typical of loss in loaf volume and coarseness in crumb grain that is imported by the bran.

The long term averages of HRS cultivars are listed above.

- 1/ Observed Values Corrected to 14% Moisture Basis
- 3/ Absorption at 14% Moisture Corrected to 12% Protein
- 4/ Observed Values Corrected to 12% Protein
- 5/ Particularly Promising Overall Quality Characteristics
- 6/ Promising Overall Quality Characteristics

SWM BAKING TESTS

WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

NURSCO 77

PULLMAN, WA

R.E. ALLAN

LABNUM	VARIETY	IDNO	CLASS	TWT	FYLD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	CODI
882358 LEWJAIN		CI017909	SHW	62.9	73.0	0.29	89.9	8.2	53.5	9.09
882359 STEPHENS		CI017596	SHW	62.3	70.8	0.26	88.3	8.4	53.5	8.64
882360 HILL 81		CI017954	SHW	63.1	73.4	0.25	92.7	7.9	53.2	8.64
882361 DAWS		CI017419	SHW	63.2	71.0	0.29	87.8	7.8	53.5	8.60
882362 MADSEN		WA7163	SHW	62.5	73.1	0.32	88.1	8.6	53.2	8.49
882363 VPM/M951/YMH/HYS//HILL 81		WA7625	CLUB	62.5	72.1	0.29	88.4	8.6	53.0	8.31
882364 SPN//ROAZON/SWL.101		89-013	SHW	63.2	72.4	0.35	86.6	7.9	53.6	8.73
882365 VPM/M951//SWL.101		WA7666	CLUB	62.0	73.6	0.34	88.8	8.5	53.7	8.81
882366 VPM/M951//PECK/SPN//DAWS		6/ WA7624	CLUB	60.2	72.7	0.25	91.5	8.1	54.8	8.80
882367 TRES MLD RES (WARDEN BLEND 1-18)		89-036	CLUB	64.1	73.7	0.27	92.6	8.7	50.6	8.75
882368 1987 TRES COMPOSITE CROSS		WA7526	CLUB	63.2	71.5	0.33	86.4	8.9	49.8	8.81
882369 1987 TRES MULTILINE		89-038	CLUB	61.9	70.8	0.25	89.2	8.9	48.8	8.76
882370 HYAK		WA7166	CLUB	62.6	71.9	0.35	85.7	7.9	52.9	8.77
882371 VPM/M951//2*BARBEE		5/ 89-040	CLUB	63.5	72.5	0.25	91.6	8.8	49.6	9.04
882372 TYEE//ROAZON/TRES		WA7622	CLUB	61.8	70.2	0.30	84.7	7.5	52.6	8.66
882373 TYEE//CD/TRES		5/ WA7665	CLUB	61.7	73.5	0.29	90.7	7.5	51.8	9.14
882374 VPM/M421/VH66345/5827/6241//TRS		WA7621	CLUB	63.3	71.1	0.32	85.9	8.3	50.5	8.96

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 8% Protein

4/ Observed Values Corrected to 8% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

SWW BAKING TESTS

R.E. ALLAN

PULLMAN, WA

NURSCO 77

LABNUM	VARIETY	IDNO	CLASS	CODIC 4/	MTYPE	CAVOL	SCSOR	RMKS
882358 LEWJAIN		CI017909	SWW	9.11	3L	1225	67.0	
882359 STEPHENS		CI017596	SWW	8.68	2L	1205	65.0	
882360 HILL 81		CI017954	SWW	8.63	3L	1275	74.0	
882361 DAWS		CI017419	SWW	8.58	3L	1255	70.0	
882362 MADSEN		WA7163	SWW	8.55	2M	1205	69.0	
882363 VPM/M951/YMH/HYS//HILL 81		WA7625	CLUB	8.36	2M	1175	68.0	P-CODI, P-CAVOL, P-SCSOR
882364 SPN//ROAZON/SWL.101		89-013	SWW	8.71	2L	1205	71.0	Q-CAVOL
882365 VPM/M951//SWL.101		WA7666	CLUB	8.85	3L	1215	72.0	Q-CAVOL
882366 VPM/M951//PECK/SPN//DAWS		WA7624	CLUB	8.81	2L	1260	74.0	
882367 TRES MLD RES (WARDEN BLEND 1-18)		89-036	CLUB	8.80	1M	1210	69.0	Q-CAVOL
882368 1987 TRES COMPOSITE CROSS		WA7526	CLUB	8.88	1M	1230	70.0	Q-CAVOL, Q-SCSOR
882369 1987 TRES MULTILINE		89-038	CLUB	8.83	1M	1280	74.0	Q-FYELD
882370 HYAK		WA7166	CLUB	8.77	3L	1275	76.0	
882371 VPM/M951//2*BARBEE		89-040	CLUB	9.09	2M	1285	75.0	
882372 TYEE//ROAZON/TRES		WA7622	CLUB	8.63	2L	1285	76.0	Q-FYELD, Q-CODI
882373 TYEE//CD/TRES		WA7665	CLUB	9.10	2L	1265	76.0	
882374 VPM/M421/VH66345/5827/6241//TRS		WA7621	CLUB	8.98	2L	1240	69.0	Q-SCSOR

COMMENTS: This nursery averaged 8% flour protein. The cookie spread and sponge cake volume for most selections and the checks were not as great as expected for this protein level. See "Remarks" and "Footnotes".

NURSCO 78

C. F. KONZAK

LABNUM	VARIETY	IDNO	CLASS	FASH	FPROT	MABSC	BABS	BABSC	MTIME	LVOL
				<u>1/</u>	<u>1/</u>	<u>3/</u>		<u>3/</u>		
882375 LOW FERTILITY WADUAL		WA7187	SWS	0.96	13.3	61.0	65.0	64.7	4.5	650
882376 HIGH FERTILITY WADUAL		WA7187	SWS	0.95	12.9	58.3	61.9	62.0	3.5	645

LABNUM	VARIETY	IDNO	CLASS	LVOLC	BCRGR	MTYPE	CODI	CODIC	RMKS
				<u>4/</u>				<u>4/</u>	
882375 LOW FERTILITY WADUAL		WA7187	SWS	632	8	4M	8.09	8.12	
882376 HIGH FERTILITY WADUAL		WA7187	SWS	651	8	3M	8.17	8.16	

COMMENTS: These two wheats were baked in cooperation with the Flour Girls Unifine Milling Co., Pullman, WA. Volumes were typical of that obtained with whole ground hard red wheat.

- 1/ Observed Values Corrected to 14% Moisture Basis
3/ Absorption at 14% Moisture Corrected to 13% Protein
4/ Observed Values Corrected to 13% Protein
5/ Particularly Promising Overall Quality Characteristics
6/ Promising Overall Quality Characteristics

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

AUSTRALIAN LINES

R.E. ALLAN

PULLMAN, WA

NURSCO 79

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
						<u>1/</u>		<u>1/</u>	<u>3/</u>	
882377 88S511		PI422399	HWS	62.0	72.3	0.34	86.2	10.1	62.5	4M
882378 88S512		PI422407	HWS	60.0	69.9	0.40	80.3	11.2	61.9	4M
882379 88S513		PI442899	HWS	61.1	70.8	0.37	82.7	10.2	62.4	3M
882380 88S514		PI442900	HWS	62.1	72.5	0.32	88.2	10.5	62.6	6M
882381 88S515		PI442902	HWS	61.7	67.8	0.36	78.7	10.5	62.0	2H
882382 88S516		PI442906	HWS	57.3	69.5	0.39	79.8	11.0	61.8	2H
882383 88S517		PI442908	HWS	59.6	68.7	0.41	76.7	11.9	63.8	4H
882384 88S518		PI442909	HWS	60.6	70.6	0.37	82.3	10.3	60.4	2M
882385 KLASIC		PI486131	HWS	61.0	70.9	0.35	84.7	10.4	60.7	6M
882386 MCKAY		CI017903	HRS	61.5	72.4	0.32	88.8	10.5	59.8	8M
882387 PENEWAWA		PI495916	SWS	60.7	70.0	0.34	83.2	8.7	54.7	6L
882388 WADUAL		WA7187	SWS	60.4	72.2	0.33	86.1	9.8	57.0	7M

- 1/ Observed Values Corrected to 14% Moisture Basis
3/ Absorption at 14% Moisture Corrected to 10% Protein
4/ Observed Values Corrected to 10% Protein
5/ Particularly Promising Overall Quality Characteristics
6/ Promising Overall Quality Characteristics

AUSTRALIAN LINES

R.E. ALLAN

PULLMAN, WA

NURSCO 79

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR
					<u>3/</u>			<u>4/</u>	
882377 88S511		PI422399	HWS	62.3	62.2	2.9	925	919	4
882378 88S512		PI422407	HWS	62.8	61.6	2.6	925	851	4
882379 88S513		PI442899	HWS	63.3	63.1	2.4	945	933	3
882380 88S514		PI442900	HWS	62.8	62.3	3.0	955	924	3
882381 88S515		PI442902	HWS	62.2	61.7	2.1	890	859	4
882382 88S516		PI442906	HWS	62.5	61.5	2.4	905	843	3
882383 88S517		PI442908	HWS	65.4	63.5	2.9	930	812	6
882384 88S518		PI442909	HWS	60.4	60.1	1.7	785	766	7
882385 KLASIC		PI486131	HWS	60.8	60.4	2.8	940	915	3
882386 MCKAY		CI017903	HRS	60.0	59.5	3.7	910	879	2
882387 PENEWAWA		PI495916	SWS	53.6	54.9	3.7	840	918	6
882388 WADUAL		WA7187	SWS	56.5	56.7	4.4	860	872	3

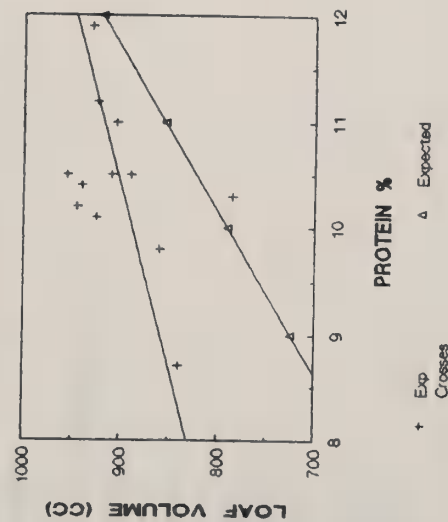
NURSCO 79

PULLMAN, WA

R.E. ALLAN

LABNUM	VARIETY	IDNO	CLASS	CODI	CODIC	WTIN	NOSCOR	RHKS
					4/			
882377 88S511		PI422399	HWS	8.11	8.12	318	72	P-CODI, P-NOSCOR
882378 88S512		PI422407	HWS	8.11	8.21	319	73	Q-FYELD, P-CODI, P-NOSCOR
882379 88S513		PI442899	HWS	7.97	7.99	342	73	P-CODI, P-NOSCOR
882380 88S514		PI442900	HWS	7.87	7.91	360	79	P-CODI
882381 88S515		PI442902	HWS	7.70	7.74	370	79	P-FYELD, P-MTIME, P-CODI
882382 88S516		PI442906	HWS	7.71	7.79	366	80	Q-FYELD, P-CODI
882383 88S517		PI442908	HWS	7.55	7.70	374	82	P-FYELD, Q-BCRGR, P-CODI
882384 88S518		PI442909	HWS	7.96	7.99	350	77	P-MTIME, P-LVOL, P-BCRGR, P-CODI
882385 KLASIC		PI486131	HWS	7.76	7.79	333	79	
882386 MCKAY		CI017903	HRS	8.35	8.39	330	74	
882387 PENEWAWA		PI495916	SWS	8.85	8.71	358	82	
882388 WADUAL		WA7187	SWS	8.74	8.72	346	80	

LOAF VOLUME VS PROTEIN



COMMENTS: This nursery averaged 10% flour protein. Bread Quality characteristics of most HWS selections were generally questionable to satisfactory. Cookie spread of all HWS selections were poor. Noodle scores of the HWS selections were generally quite satisfactory with the exception of 3 selections which were rather questionable to poor.

R.E. ALLAN

PULLMAN, WA

NURSCO 80

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
882389	NUGAINES	C1013968	SWW	60.0	69.9	0.39	85.0	9.4	58.0	2M
882390 .		4382	SWW	60.0	73.4	0.39	89.6	8.9	57.1	2M
882391 .		4396	SWW	60.0	73.0	0.45	85.3	8.9	57.6	3M
882392 .		4404	SWW	56.0	69.3	0.44	81.2	8.9	57.6	4M
882393 .		4405	SWW	63.0	73.7	0.37	91.2	8.5	57.0	2M
882394 .		4408	SRW	60.0	66.1	0.30	85.9	9.3	57.2	2M
882395 .		4412	SWW	56.1	70.6	0.49	79.9	10.5	58.7	3M
882396 .		4414	SWW	56.3	72.4	0.43	85.8	9.8	58.8	6M
882397 .		4443	SWW	61.0	72.6	0.37	89.7	8.7	58.2	4M
882398 .		4457	SWW	60.0	72.5	0.33	92.2	9.2	55.7	2M
882399	LUKE	C1014586	SWW	59.0	71.4	0.37	88.2	9.6	58.8	3M
882400 .		4271	SWW	60.0	73.5	0.33	93.4	10.0	59.0	4M
882401 .		4272	SWW	61.0	74.2	0.32	95.0	10.6	58.9	3M
882402 .		4289	SWW	60.0	75.1	0.39	91.7	10.3	59.7	3M
882403 .		4301	SWW	60.0	74.7	0.44	88.2	10.5	59.3	4M
882404 .		4355	SWW	57.0	77.0	0.46	90.1	10.9	59.2	4M
882405 .		4363	SWW	60.0	74.1	0.38	91.1	10.2	58.7	4M
882406 .		4376	SWW	56.0	73.6	0.40	89.3	10.3	59.6	4M
882407	STEPHENS	C1017596	SWW	60.0	73.9	0.32	94.6	10.4	56.9	2M
882408 .		4068	SWW	60.0	74.4	0.35	93.4	9.6	57.8	2M
882409 .		4071	SWW	61.0	75.8	0.30	98.3	10.3	57.6	2M
882410 .		4082	SWW	57.0	75.0	0.37	92.9	10.7	55.0	2M
882411 .		4097	SWW	58.0	73.5	0.36	91.7	10.0	54.6	2M
882412 .		4125	SWW	61.0	73.6	0.24	99.2	12.5	56.2	2M
882413 .		4143	SWW	60.0	73.7	0.34	93.2	10.7	55.0	2M
882414 .		4148	SWW	60.0	72.6	0.30	94.3	12.2	54.4	2M
882415 .		4156	SWW	59.0	73.6	0.38	90.6	10.2	54.4	2M

1/ Observed Values Corrected to 14% Moisture Basis
3/ Absorption at 14% Moisture Corrected to 10% Protein
4/ Observed Values Corrected to 10% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

NURSCO 80

PULLMAN, WA

R.E. ALLAN

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	Hardness	RMKS
					3/			4/			
882389	NUGAINES	C1013968	SWW	57.6	58.2	1.8	855	891	4	38	
882390		4382	SWW	56.7	57.8	1.8	685	751	8	59	P-LVOL, P-BCRGR
882391		4396	SWW	57.7	58.8	2.5	775	841	6	77	Q-BCRGR
882392		4404	SWW	57.2	58.3	2.5	750	816	6	75	Q-BCRGR
882393		4405	SWW	55.7	57.2	1.6	680	770	9	81	P-MTIME, P-LVOL, P-BCRGR
882394		4408	SRW	56.7	57.4	1.7	835	877	5	34	P-FYELD, Q-BCRGR
882395		4412	SWW	59.9	59.4	2.2	955	925	3	62	P-FASH, P-MSCOR
882396		4414	SWW	60.3	60.5	3.0	755	767	6	74	P-LVOL, Q-BCRGR
882397		4443	SWW	57.6	58.9	2.5	830	908	8	78	P-BCRGR
882398		4457	SWW	55.6	56.4	1.8	825	873	8	82	P-BCRGR
882399	LUKE	C1014586	SWW	59.1	59.5	2.3	900	924	4	38	
882400		4271	SWW	59.7	59.7	2.4	860	860	4	39	
882401		4272	SWW	60.2	59.6	2.3	865	829	5	84	Q-BCRGR
882402		4289	SWW	60.7	60.4	2.7	905	887	5	82	Q-BCRGR
882403		4301	SWW	60.5	60.0	2.8	890	860	5	86	Q-BCRGR
882404		4355	SWW	60.8	59.9	2.6	945	891	5	76	Q-BCRGR
882405		4363	SWW	59.6	59.4	2.7	860	848	4	82	
882406		4376	SWW	60.6	60.3	2.3	870	852	5	78	Q-BCRGR
882407	STEPHENS	C1017596	SWW	58.0	57.6	1.5	865	841	8	50	
882408		4068	SWW	58.1	58.5	1.5	760	784	8	93	P-LVOL, P-BCRGR
882409		4071	SWW	59.6	59.3	1.7	795	777	8	95	P-LVOL, P-BCRGR
882410		4082	SWW	56.4	55.7	1.5	820	778	8	85	P-LVOL, P-BCRGR
882411		4097	SWW	55.3	55.3	1.8	760	760	9	88	P-LVOL, P-BCRGR
882412		4125	SWW	59.4	56.9	1.5	890	740	6	71	P-LVOL, P-BCRGR
882413		4143	SWW	56.4	55.7	1.5	715	673	9	96	VP-LVOL, VP-BCRGR
882414		4148	SWW	57.3	55.1	1.7	590	458	9	67	VP-LVOL, VP-BCRGR
882415		4156	SWW	57.8	57.6	1.8	905	893	6	88	Q-BCRGR

COMMENTS: This nursery averaged 10% flour protein. Generally the Luke selections exhibited fewer deficiencies than did the Nugaines and Stephens lines. The Luke selections had adequate loaf volume for their protein level, however bread crumb grain quality was getting near questionable. The hardness values are shown. The harder wheats generally showed a trend of having higher flour yields, very reasonable ash content and excellent milling scores. See Nursery 092 for other selections from the same nursery.

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

WESTERN PLANT BREEDERS SWS

T. PARKS

BOZEMAN, MT

MURSCO 81

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	CODI
						<u>1/</u>		<u>1/</u>	<u>3/</u>	
882416 FIELDWIN		C1017425	SWS	64.5	69.0	0.32	88.3	10.0	57.3	9.24
882417 PENEWAWA		P1495916	SWS	63.5	66.7	0.39	81.0	10.1	58.2	9.04
882418 DISCOVERY			<u>5/</u> SWS	63.0	71.5	0.32	91.5	10.7	59.9	9.34
882419 SPRITE		681-17	<u>6/</u> SWS	64.9	70.3	0.34	88.7	10.6	58.9	9.08
882420 B2-684-12			SWS	64.2	68.8	0.33	87.4	9.5	57.6	9.26
882421 B2-684-21			SWS	64.3	69.7	0.39	84.9	9.4	55.6	9.35
882422 B2-684-22			<u>5/</u> SWS	64.7	71.4	0.35	89.5	9.7	54.9	9.49
882423 B2-684-23			<u>6/</u> SWS	64.0	69.7	0.36	86.7	9.5	55.8	9.70
882424 B2-684-25			SWS	63.2	68.7	0.35	86.0	9.3	56.0	9.37

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 10% Protein

4/ Observed Values Corrected to 10% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

NURSCO 81

BOZEMAN, MT

T. PARKS

LABNUM	VARIETY	IDNO	CLASS	CODIC 4/	MTYPE	RMKS
882416	FIELDWIN	CI017425	SWS	9.24	1M	
882417	PENEWAWA	PI495916	SWS	9.05	2M	
882418	DISCOVERY		SWS	9.41	4M	
882419	SPRITE	681-17	SWS	9.14	1M	
882420	B2-684-12		SWS	9.21	2M	
882421	B2-684-21		SWS	9.28	1M	
882422	B2-684-22		SWS	9.45	1M	
882423	B2-684-23		SWS	9.64	2M	
882424	B2-684-25		SWS	9.30	2M	

COMMENTS: This nursery contains some very promising selections composed of Fieldwin and Penewawa. All cookie diameters were very good to excellent.

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

PRELIMINARY HRW

E. DONALDSON

NURSCO 82

LIND, WA

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
						1/		1/	3/	
882425 WESTON		C1017727	HRW	63.2	70.3	0.37	86.6	13.0	67.0	2H
882426 .		N8800101	HRW	62.4	71.4	0.41	85.6	14.5	66.5	4H
882427 .		N8800201	HRW	62.8	71.8	0.32	90.6	14.4	66.6	3H
882428 .		N8800401	HRW	62.8	68.6	0.32	87.3	10.8	65.0	4M
882429 .		N8800701	HRW	63.2	69.2	0.35	86.4	13.4	66.1	4H
882430 WESTON		C1017727	HRW	63.2	70.1	0.35	87.4	13.4	67.6	2H
882431 .		N8800801	HRW	62.4	69.1	0.33	87.4	14.3	66.4	4H
882432 .		6/ N8800802	HRW	64.0	70.2	0.32	89.0	13.4	65.3	2H
882433 .		N8800901	HRW	60.8	70.5	0.38	86.2	15.0	64.8	1H
882434 .		N8801001	HRW	63.2	68.6	0.39	83.7	12.8	68.0	4H
882435 .		6/ N8801101	HRW	62.4	69.8	0.34	87.6	12.9	67.9	3H
882436 .		N8801201	HRW	62.0	71.1	0.32	90.0	13.3	67.4	4H
882437 WESTON		C1017727	HRW	63.2	69.0	0.36	85.7	13.5	67.7	2H
882438 .		N8801301	HRW	61.6	69.2	0.43	82.3	12.6	67.1	3M
882439 .		N8801302	HRW	62.4	71.0	0.42	84.6	12.6	67.7	5H
882440 .		N8801303	HRW	61.6	70.9	0.44	83.5	12.0	67.7	3H
882441 .		N8801304	HRW	62.4	70.5	0.43	83.6	12.9	68.9	5H
882442 .		6/ N8801501	HRW	61.2	72.2	0.33	90.6	16.1	66.2	3H
882443 .		6/ N8801701	HRW	62.0	70.6	0.34	88.4	12.7	68.5	5H
882444 .		N8801801	HRW	62.8	70.1	0.31	89.4	12.9	67.9	3H
882445 .		5/ N8801802	HRW	61.6	70.1	0.31	89.4	11.2	66.8	3H
882446 .		N8801803	HRW	61.6	70.1	0.34	87.9	13.2	67.3	3H
882447 WESTON		C1017727	HRW	62.8	69.8	0.35	87.1	13.1	68.1	2H
882448 .		N8801901	HRW	62.0	71.0	0.40	85.7	13.9	66.9	6H
882449 .		N8802001	HRW	62.0	71.0	0.30	90.9	14.4	68.0	2H
882450 .		N8802101	HRW	62.4	72.9	0.31	92.3	12.9	64.1	6M
882451 .		6/ N8802201	HRW	61.2	71.1	0.36	87.8	12.2	64.7	7M
882452 .		N8802301	HRW	62.8	71.0	0.31	90.4	12.6	68.2	4H
882453 .		5/ N8802302	HRW	62.8	69.4	0.32	88.2	12.4	69.0	4H
882454 .		N8802303	HRW	62.8	69.7	0.32	88.5	12.7	65.6	4H

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 13% Protein

4/ Observed Values Corrected to 13% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

NURSCO 82

LIND, WA

E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					3/			4/		
882425	WESTON	C1017727	HRW	66.7	66.7	2.0	1020	1020	3	P-LVOL, Q-BCRGR
882426	.	N8800101	HRW	68.7	67.2	4.0	925	832	5	P-LVOL
882427	.	N8800201	HRW	67.7	66.3	2.6	925	838	3	Q-FYELD, P-BCRGR
882428	.	N8800401	HRW	62.5	64.7	2.8	875	1011	6	Q-FYELD, Q-BCRGR
882429	.	N8800701	HRW	66.2	65.8	3.3	940	915	4	
882430	WESTON	C1017727	HRW	67.7	67.3	2.1	1000	975	2	
882431	.	N8800801	HRW	67.4	66.1	3.5	1050	969	4	Q-BCRGR, Q-FYELD
882432	.	N8800802	HRW	65.4	65.0	2.1	1015	990	3	
882433	.	N8800901	HRW	65.5	63.5	1.1	925	801	6	P-MTIME
882434	.	N8801001	HRW	67.5	67.7	3.4	980	992	2	Q-FYELD
882435	.	N8801101	HRW	67.5	67.6	2.5	950	956	3	
882436	.	N8801201	HRW	67.4	67.1	3.2	980	961	4	Q-BCRGR
882437	WESTON	C1017727	HRW	67.4	66.9	2.2	1025	994	3	
882438	.	N8801301	HRW	65.9	66.3	2.5	1035	1060	4	Q-BCRGR
882439	.	N8801302	HRW	67.0	67.4	4.0	995	1020	4	Q-BCRGR
882440	.	N8801303	HRW	66.4	67.4	2.9	995	1057	3	
882441	.	N8801304	HRW	68.5	68.6	3.3	1020	1026	4	Q-BCRGR
882442	.	N8801501	HRW	69.0	65.9	2.5	1150	958	2	
882443	.	N8801701	HRW	67.9	68.2	3.7	1040	1059	3	
882444	.	N8801801	HRW	67.5	67.6	2.8	1070	1076	4	Q-BCRGR
882445	.	N8801802	HRW	64.7	66.5	3.0	975	1087	2	
882446	.	N8801803	HRW	67.2	67.0	2.5	1040	1028	4	Q-BCRGR
882447	WESTON	C1017727	HRW	67.4	67.3	2.0	1030	1024	3	
882448	.	N8801901	HRW	67.5	66.6	5.8	1005	949	4	Q-BCRGR, Q-LVOL
882449	.	N8802001	HRW	68.6	67.2	2.2	1070	983	4	Q-BCRGR, Q-LVOL
882450	.	N8802101	HRW	64.7	64.8	3.0	855	861	4	Q-BCRGR, P-LVOL
882451	.	N8802201	HRW	64.1	64.9	3.0	965	1015	3	
882452	.	N8802301	HRW	67.5	67.9	3.0	915	940	3	Q-LVOL
882453	.	N8802302	HRW	67.1	67.7	2.6	1040	1077	2	
882454	.	N8802303	HRW	65.0	65.3	3.0	975	994	4	Q-BCRGR

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

PRELIMINARY HRW

NURSCO 82

LIND, WA

E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
						1/		1/	3/	
882455 .		N8802304	HRW	62.0	70.5	0.28	91.4	12.0	64.8	5H
882456 .		N8802305	HRW	62.0	71.1	0.28	92.1	12.6	65.6	3H
882457 .		N8802306	HRW	62.4	71.0	0.25	93.5	12.1	65.7	5H
882458 WESTON		C1017727	HRW	62.8	70.4	0.23	94.0	13.6	66.8	2H
882459 .		N8802401	HRW	62.8	73.1	0.22	97.3	12.7	68.5	5H
882460 .		N8802402	HRW	63.2	71.1	0.21	95.7	11.2	65.2	8M
882461 .		<u>5/</u> N8802501	HRW	62.0	71.6	0.27	93.1	13.6	66.8	3H
882462 .		N8802601	HRW	62.4	72.4	0.27	93.9	12.6	67.6	3H
882463 .		N8802701	HRW	62.8	69.1	0.33	87.4	12.0	65.2	6M
882464 .		N8802801	HRW	63.2	69.7	0.34	87.4	11.0	65.3	7M
882465 WESTON		C1017727	HRW	62.8	70.1	0.36	86.9	13.6	67.3	2H
882466 .		<u>6/</u> N8803101	HRW	64.0	70.8	0.32	89.6	13.9	67.4	3H
882467 .		N8803201	HRW	62.8	67.1	0.37	83.2	11.9	64.8	3H
882468 .		N8803202	HRW	62.4	71.2	0.35	88.5	13.2	66.0	2H
882469 .		N8803203	HRW	64.0	67.7	0.29	88.0	11.5	64.2	3H
882470 .		N8803204	HRW	62.0	68.4	0.30	88.2	13.0	68.2	5H
882471 .		<u>6/</u> N8803205	HRW	62.4	71.6	0.33	89.9	11.6	64.8	3H
882472 .		N8803206	HRW	62.8	68.6	0.28	89.4	13.1	66.7	4H
882473 .		N8803207	HRW	62.0	70.3	0.30	90.2	13.2	64.2	3H
882474 .		<u>6/</u> N8803301	HRW	63.2	71.3	0.28	92.3	11.6	65.4	3H
882475 .		N8803401	HRW	62.4	69.8	0.28	90.7	13.3	66.6	5H
882476 .		N8803402	HRW	62.8	68.2	0.27	89.6	13.4	66.0	4H
882477 WESTON		C1017727	HRW	62.4	69.5	0.31	88.9	14.0	67.4	2H
882478 .		<u>6/</u> N8803403	HRW	62.8	69.8	0.28	90.7	13.9	66.6	5H
882479 .		N8803404	HRW	61.6	67.8	0.29	88.1	12.8	66.0	5H
882480 .		N8803405	HRW	62.4	68.0	0.27	89.3	13.8	67.5	4H
882481 .		<u>5/</u> N8803406	HRW	62.8	70.3	0.27	91.8	13.6	66.7	5H
882482 .		N8803501	HRW	64.0	69.9	0.31	89.3	13.7	65.2	3H
882483 .		N8803502	HRW	63.6	69.2	0.34	86.9	13.5	65.7	4H
882484 .		<u>6/</u> N8803601	HRW	62.8	69.5	0.37	85.7	13.0	65.5	8M

NURSCO 82

LIND, WA

E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					$\frac{3}{4}$			$\frac{4}{4}$		
882455 .		N8802304	HRW	63.5	64.5	4.2	945	1007	6	P-BCRGR
882456 .		N8802305	HRW	64.9	65.3	2.9	1075	1100	4	Q-BCRGR
882457 .		N8802306	HRW	65.5	66.4	4.0	970	1026	4	Q-BCRGR
882458 WESTON		C1017727	HRW	67.6	67.0	1.9	1095	1058	4	
882459 .		N8802401	HRW	68.9	69.2	3.7	1045	1064	5	P-BCRGR
882460 .		N8802402	HRW	63.6	65.4	4.4	925	1037	4	Q-BCRGR
882461 .		N8802501	HRW	67.1	66.5	3.3	1070	1033	2	
882462 .		N8802601	HRW	66.9	67.3	2.6	955	980	4	Q-BCRGR
882463 .		N8802701	HRW	63.4	64.4	3.0	925	987	3	Q-LVOL, Q-FYELD
882464 .		N8802801	HRW	65.5	67.5	4.0	895	1019	4	Q-BCRGR
882465 WESTON		C1017727	HRW	66.6	66.0	2.0	1030	993	4	
882466 .		N8803101	HRW	67.0	66.1	2.9	1015	959	2	
882467 .		N8803201	HRW	62.9	64.0	2.8	880	948	5	P-FYELD, Q-LVOL, P-BCRGR
882468 .		N8803202	HRW	65.4	65.2	2.3	925	913	5	Q-LVOL, P-BCRGR
882469 .		N8803203	HRW	62.9	64.4	2.8	885	978	5	P-FYELD, P-BCRGR
882470 .		N8803204	HRW	67.9	67.9	4.1	915	915	4	Q-FYELD, Q-BCRGR, Q-LVOL
882471 .		N8803205	HRW	62.6	64.0	3.0	910	997	3	
882472 .		N8803206	HRW	66.5	66.4	3.1	1000	994	2	Q-FYELD
882473 .		N8803207	HRW	64.1	63.9	3.0	945	933	4	
882474 .		N8803301	HRW	63.7	65.1	3.0	940	1027	3	
882475 .		N8803401	HRW	66.6	66.3	4.6	965	946	3	Q-LVOL
882476 .		N8803402	HRW	66.1	65.7	3.7	1005	980	4	Q-FYELD, Q-BCRGR
882477 WESTON		C1017727	HRW	67.1	66.1	2.0	1005	943	6	
882478 .		N8803403	HRW	67.2	66.3	4.6	990	934	2	
882479 .		N8803404	HRW	65.5	65.7	4.2	940	952	3	Q-FYELD
882480 .		N8803405	HRW	68.0	67.2	3.9	1030	980	3	Q-FYELD
882481 .		N8803406	HRW	67.0	66.4	3.6	1000	963	2	
882482 .		N8803501	HRW	65.6	64.9	2.9	1040	997	4	Q-BCRGR
882483 .		N8803502	HRW	65.9	65.4	2.9	960	929	3	Q-LVOL
882484 .		N8803601	HRW	65.2	65.2	5.5	950	950	3	

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WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

PRELIMINARY HRW

NURSCO 82 LIND, WA E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
						1/		1/	3/	
882485 .		6/ N8803602	HRW	65.2	70.1	0.30	90.0	14.1	66.3	3H
882486 .		N8803701	HRW	64.0	69.9	0.36	86.6	13.8	65.5	3H
882487 .		N8803702	HRW	62.8	72.4	0.27	94.0	14.3	65.2	4H
882488 .		N8803703	HRW	63.2	71.4	0.36	88.2	13.6	65.1	5H
882489 .		N8803704	HRW	62.8	69.1	0.33	87.4	12.7	64.8	4H
882490 WESTON		C1017727	HRW	63.2	69.3	0.32	88.1	14.1	57.3	2H
882491 .		N8803901	HRW	62.4	72.0	0.29	92.5	12.4	63.1	2M
882492 .		N8803902	HRW	62.4	68.8	0.29	89.1	12.7	64.8	1H
882493 .		6/ N8804001	HRW	61.6	71.8	0.29	92.3	13.8	65.9	4H
882494 .		6/ N8804002	HRW	61.2	71.8	0.27	93.4	14.0	65.1	4H
882495 WESTON		C1017727	HRW	62.8	70.5	0.35	87.8	13.3	67.1	2H
882496 .		N8804201	HRW	62.0	70.3	0.30	90.2	13.7	65.7	4H
882497 .		N8804401	HRW	65.4	69.9	0.30	89.8	13.2	64.0	3M
882498 .		N8804601	HRW	62.0	75.3	0.28	96.4	14.5	64.2	2H
882499 .		N8804605	HRW	61.2	73.0	0.40	87.8	15.1	65.7	2H
882500 .		N8804702	HRW	62.4	69.4	0.28	90.3	12.9	64.9	2H
882501 WESTON		C1017727	HRW	62.8	70.1	0.32	89.0	13.6	66.8	2H
882502 .		N8804801	HRW	63.2	72.4	0.33	90.8	14.0	65.5	3H
882503 .		6/ N8804802	HRW	62.4	71.0	0.35	88.3	14.0	66.4	4H
882504 .		N8804901	HRW	62.0	69.4	0.40	84.1	13.0	65.5	2H
882505 .		N8804902	HRW	62.4	69.6	0.37	85.7	12.8	65.2	2H
882506 WESTON		C1017727	HRW	63.2	69.7	0.33	88.0	13.3	68.2	2H
882507 .		N8805101	HRW	61.6	67.8	0.32	86.5	14.1	69.6	4H
882508 .		N8805201	HRW	61.6	69.2	0.34	87.0	13.1	63.8	3M
882509 .		N8805202	HRW	62.4	68.7	0.36	85.4	12.1	61.6	7M
882510 WESTON		C1017727	HRW	63.2	70.6	0.33	88.9	13.0	67.5	2H
882511 .		N8805501	HRW	63.6	73.7	0.32	92.7	12.5	63.8	2H
882512 .		N8805702	HRW	62.4	71.6	0.30	91.5	13.4	66.8	3H
882513 .		N8806001	HRW	61.6	70.1	0.31	89.5	14.1	65.3	5H
882514 WESTON		C1017727	HRW	63.2	70.5	0.33	88.8	13.0	67.8	2H

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

PRELIMINARY HRW

NURSCO 82

LIND, WA

E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					<u>3/</u>			<u>4/</u>		
882485 .		N8803602	HRW	67.1	66.0	3.1	1025	957	3	P-LVOL
882486 .		N8803701	HRW	66.0	65.2	3.1	915	865	4	P-LVOL
882487 .		N8803702	HRW	66.2	64.9	3.4	945	864	3	P-LVOL
882488 .		N8803703	HRW	65.4	64.8	4.2	960	923	4	Q-BCRGR, Q-LVOL
882489 .		N8803704	HRW	64.2	64.5	3.5	870	889	5	P-BCRGR, P-LVOL
882490 WESTON		C1017727	HRW	59.6	58.5	1.9	960	892	2	
882491 .		N8803901	HRW	61.2	61.8	1.8	890	927	4	Q-MTIME, Q-LVOL, Q-BCRGR
882492 .		N8803902	HRW	64.2	64.5	1.7	850	869	8	Q-FYELD, P-MTIME, P-BCRGR
882493 .		N8804001	HRW	66.4	65.6	3.6	945	895	2	
882494 .		N8804002	HRW	65.8	64.8	3.9	965	903	3	
882495 WESTON		C1017727	HRW	66.6	66.3	2.2	1050	1031	2	
882496 .		N8804201	HRW	66.1	65.4	2.7	970	927	3	Q-LVOL
882497 .		N8804401	HRW	63.9	63.7	2.3	980	968	5	P-BCRGR
882498 .		N8804601	HRW	65.4	63.9	2.1	915	822	5	P-BCRGR
882499 .		N8804605	HRW	67.0	64.9	2.0	975	845	5	P-BCRGR
882500 .		N8804702	HRW	64.5	64.6	1.8	980	986	5	P-BCRGR, P-MTIME, Q-FYELD
882501 WESTON		C1017727	HRW	66.6	66.0	2.1	925	888	4	
882502 .		N8804801	HRW	67.2	66.2	2.9	990	928	4	Q-BCRGR
882503 .		N8804802	HRW	68.1	67.1	3.1	995	933	2	
882504 .		N8804901	HRW	65.2	65.2	2.2	965	965	5	Q-FYELD
882505 .		N8804902	HRW	64.2	64.4	2.0	925	937	3	
882506 WESTON		C1017727	HRW	67.7	67.4	2.1	1055	1036	3	
882507 .		N8805101	HRW	71.4	70.3	2.9	1140	1072	2	Q-FYELD
882508 .		N8805201	HRW	63.1	63.0	2.0	895	889	6	P-LVOL, P-BCRGR
882509 .		N8805202	HRW	61.4	62.3	4.0	790	846	9	P-LVOL, P-BCRGR, Q-FYELD
882510 WESTON		C1017727	HRW	66.7	66.7	2.1	1060	1060	3	
882511 .		N8805501	HRW	62.5	63.0	1.9	975	1006	4	Q-MTIME, Q-LVOL, Q-BCRGR
882512 .		N8805702	HRW	66.9	66.5	2.4	1025	1000	4	Q-BCRGR
882513 .		N8806001	HRW	67.1	66.0	4.4	995	927	2	Q-LVOL
882514 WESTON		C1017727	HRW	67.0	67.0	2.4	975	975	3	

NURSCO 82

LIND, WA

E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	TWT	FYLD	FASH	MSCOR	FPROT	MABSC	MTYPE
						1/		1/	3/	
882515 .		5/N8806101	HRW	64.0	70.4	0.39	85.5	12.8	67.2	5H
882516 .		N8806102	HRW	63.2	69.9	0.32	88.7	13.1	66.4	4M
882517 .		N8806103	HRW	63.2	69.7	0.35	86.9	13.8	66.1	4H
882518 .		N8806104	HRW	63.6	69.1	0.33	87.4	12.7	65.7	6M
882519 .		6/N8806105	HRW	63.2	70.6	0.34	88.5	12.6	65.8	5H
882520 WESTON		C1017727	HRW	62.8	70.5	0.37	86.7	13.6	67.6	2H
882521 .		N8806201	HRW	62.0	69.9	0.39	85.0	13.2	66.7	4H
882522 .		N8806202	HRW	62.4	68.7	0.36	85.4	12.7	66.0	5H
882523 .		6/N8806203	HRW	62.8	70.1	0.38	85.8	12.7	67.0	5H
882524 .		N8806302	HRW	60.8	69.4	0.37	85.6	12.9	64.3	3H
882525 .		6/N8806401	HRW	63.6	72.9	0.37	89.3	13.0	63.2	4M
882526 .		6/N8806402	HRW	62.0	70.7	0.38	86.4	11.5	63.7	4H
882527 .		5/N8806403	HRW	62.4	70.1	0.34	87.9	13.6	66.4	3H
882528 .		N8806404	HRW	62.4	69.5	0.33	87.8	12.6	65.9	4M
882529 WESTON		C1017727	HRW	63.2	70.0	0.35	87.3	13.3	67.9	2H
882530 .		N8806501	HRW	63.2	70.1	0.30	90.0	12.1	64.4	3M
882531 .		N8806502	HRW	64.0	72.0	0.34	89.9	11.2	63.3	7M
882532 .		N8806503	HRW	62.8	72.1	0.35	89.6	12.2	62.4	3H
882533 .		6/N8806504	HRW	62.4	73.0	0.35	90.4	11.8	64.9	3H
882534 .		N8800301	SRW	62.8	65.1	0.35	82.8	12.3	64.2	2H
882535 .		N8800302	SRW	62.8	64.4	0.35	81.9	12.1	63.4	2M
882536 .		N8800501	SRW	63.6	66.7	0.34	85.4	12.6	62.9	2M
882537 WESTON		C1017727	HRW	63.2	70.6	0.32	89.5	13.2	67.5	2H
882538 .		N8800502	SRW	63.2	67.3	0.31	88.1	12.5	64.4	2M
882539 .		N8801401	SRW	62.4	66.9	0.30	88.2	12.7	63.2	2M
882540 .		N8801601	HRW	63.6	70.5	0.27	91.9	12.9	65.0	3H
882541 WESTON		C1017727	HRW	63.2	71.1	0.30	91.0	13.0	67.7	2H
882542 .		N8803801	HRW	62.8	70.8	0.27	92.2	13.4	63.1	2H
882543 .		N8803802	HRW	62.8	70.2	0.28	91.1	13.1	65.7	3H
882544 .		6/N8803803	HRW	62.0	71.9	0.27	93.4	13.1	65.8	3H

NURSCO 82

LIND, WA

E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					<u>3/</u>			<u>4/</u>		
882515 .		N8806101	HRW	67.7	67.9	4.2	985	997	2	
882516 .		N8806102	HRW	66.7	66.6	3.1	970	964	4	
882517 .		N8806103	HRW	67.6	66.8	3.4	950	900	2	Q-LVOL, Q-FYELD
882518 .		N8806104	HRW	66.1	66.4	3.4	925	944	2	Q-FYELD
882519 .		N8806105	HRW	66.1	66.5	4.9	955	980	3	
882520 WESTON		C1017727	HRW	67.4	66.8	2.1	1015	978	3	
882521 .		N8806201	HRW	67.6	67.4	3.9	960	948	3	
882522 .		N8806202	HRW	66.4	66.7	4.0	890	909	4	Q-FYELD, P-LVOL, Q-BCRGR
882523 .		N8806203	HRW	67.4	67.7	4.4	905	924	2	
882524 .		N8806302	HRW	64.9	65.0	3.1	980	986	4	Q-BCRGR, Q_FYELD
882525 .		N8806401	HRW	63.9	63.9	3.4	995	995	3	
882526 .		N8806402	HRW	62.9	64.4	3.9	955	1048	3	
882527 .		N8806403	HRW	67.7	67.1	3.7	1020	983	2	
882528 .		N8806404	HRW	66.2	66.6	2.9	1025	1050	3	Q-FYELD
882529 WESTON		C1017727	HRW	67.9	67.6	2.1	1010	991	2	
882530 .		N8806501	HRW	63.2	64.1	2.1	950	1006	4	Q-BCRGR
882531 .		N8806502	HRW	62.2	64.0	3.9	905	1017	4	Q-BCRGR
882532 .		N8806503	HRW	62.3	63.1	2.9	910	960	4	Q-BCRGR
882533 .		N8806504	HRW	64.4	65.6	3.2	920	994	3	
882534 .		N8800301	SRW	64.2	64.9	2.9	1005	1047	2	P-FYELD "Soft"
882535 .		N8800302	SRW	62.2	63.1	2.2	1000	1054	4	P-FYELD, Q-BCRGR "Soft"
882536 .		N8800501	SRW	62.2	62.6	1.9	965	989	4	P-FYELD, Q-BCRGR "Soft"
882537 WESTON		C1017727	HRW	66.4	66.2	1.9	955	943	4	
882538 .		N8800502	SRW	62.6	63.1	1.8	880	910	5	P-FYELD, P-BCRGR, P-MTIME, "Soft"
882539 .		N8801401	SRW	61.6	61.9	2.1	940	958	3	P-FYELD, "Soft"
882540 .		N8801601	HRW	64.6	64.7	2.5	890	896	6	Q-LVOL, P-BCRGR
882541 WESTON		C1017727	HRW	66.4	66.4	1.8	1005	1005	5	
882542 .		N8803801	HRW	63.2	62.8	2.5	935	910	5	P-BCRGR, Q-LVOL
882543 .		N8803802	HRW	66.5	66.4	3.5	935	929	5	P-BCRGR, Q-LVOL
882544 .		N8803803	HRW	66.6	66.5	3.1	965	959	3	

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NURSCO 82

LIND, WA

E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
						1/		1/	3/	
882545 .		N8804101	SRW	61.6	62.4	0.33	80.6	11.8	63.6	4M
882546 .		N8804501	SRW	61.4	66.3	0.27	89.4	13.0	61.4	1M
882547 .		N8804602	SRW	60.8	64.8	0.30	85.5	12.1	60.9	3M
882548 .		N8804603	HRW	60.0	69.7	0.28	90.6	13.1	64.4	2M
882549 .		N8804604	SRW	61.6	64.6	0.30	85.3	12.3	62.4	3M
882550 .		N8804701	HRW	61.2	72.5	0.24	95.6	12.9	63.6	2H
882551 .		N8804903	SRW	62.4	64.8	0.35	82.3	12.6	63.6	2H
882552 .		N8805601	HRW	60.8	65.6	0.34	83.1	13.2	62.7	2M
882553 .		<u>6</u> /N8805701	HRW	60.8	71.4	0.33	89.7	12.4	63.3	6M
882554 .		<u>6</u> /N8806301	HRW	61.6	71.3	0.33	89.6	13.4	66.2	3H
882555 WESTON		C1017727	HRW	64.0	70.4	0.35	87.7	13.5	67.0	2H
882556 .		<u>6</u> /N8803804	HRW	62.4	70.9	0.33	89.2	12.8	63.2	6M
882557 .		N8805301	SRW	61.6	65.2	0.37	81.6	11.8	63.0	1M
882558 .		N8805401	SRW	61.2	61.9	0.30	81.9	12.3	63.0	1H
882559 .		N8806001	HRW	61.2	67.8	0.32	86.5	11.9	63.0	3M
882560 .		N8802901	HRW	62.0	71.3	0.33	89.6	12.7	65.5	5H
882561 .		N8802902	HRW	61.6	72.7	0.38	88.6	13.1	64.7	5H
882562 .		<u>6</u> /N8803001	HRW	63.2	73.5	0.33	91.9	12.4	65.5	3H
882563 .		<u>6</u> /N8803102	HRW	61.6	71.9	0.33	90.2	14.0	64.9	3H
882564 WESTON		C1017727	HRW	63.6	70.6	0.35	87.9	13.2	68.2	2H
882565 .		N8803407	HRW	62.8	69.6	0.33	87.8	12.5	66.4	5H
882566 .		<u>6</u> /N8803408	HRW	62.8	71.0	0.30	90.9	13.0	66.3	5H
882567 .		N8804202	SRW	62.4	61.4	0.30	81.3	13.2	62.1	3M
882568 .		N8804301	HRW	63.2	69.0	0.34	86.7	12.6	65.3	2H
882569 .		<u>6</u> /N8804803	HRW	63.2	70.8	0.34	88.6	14.1	63.8	2H
882570 WESTON		C1017727	HRW	60.8	70.3	0.38	86.1	13.6	67.7	2H
882571 .		N8805001	HRW	61.2	69.1	0.33	87.4	13.2	64.3	1H
882572 .		N8805801	HRW	62.4	69.4	0.40	84.0	12.4	65.9	4H
882573 .		N8805901	HRW	62.0	70.9	0.35	88.2	12.0	63.9	2M
882574 .		N8805902	HRW	62.8	70.5	0.35	87.8	13.0	64.8	2M

NURSCO 82

LIND, WA

E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					<u>3/</u>			<u>4/</u>		
882545 .		N8804101	SRW	62.1	63.3	2.8	900	972	5	P-BCRGR, P-FYELD, Q-LVOL
882546 .		N8804501	SRW	60.1	60.1	1.0	745	745	9	P-BCRGR, P-FYELD, P-LVOL, P-MTIME "Soft"
882547 .		N8804602	SRW	58.7	59.6	2.3	910	964	6	P-BCRGR, P-FYELD, Q-LVOL, Q-BABS "Soft"
882548 .		N8804603	HRW	63.2	63.1	1.3	915	909	6	P-BCRGR, P-FYELD, P-MTIME
882549 .		N8804604	SRW	60.4	61.1	2.2	955	997	7	P-BCRGR, P-FYELD
882550 .		N8804701	HRW	63.2	63.3	2.3	990	996	4	Q-BCRGR
882551 .		N8804903	SRW	61.9	62.3	1.5	905	929	7	P-BCRGR, P-FYELD, "Soft"
882552 .		N8805601	HRW	61.6	61.4	1.5	755	743	9	P-BCRGR, P-FYELD
882553 .		N8805701	HRW	62.4	63.0	3.0	935	972	3	
882554 .		N8806301	HRW	66.3	65.9	3.0	990	965	3	
882555 WESTON		C1017727	HRW	66.2	65.7	2.0	995	964	5	
882556 .		N8803804	HRW	62.7	62.9	2.8	940	952	3	
882557 .		N8805301	SRW	60.5	61.7	1.4	810	882	9	P-FYELD, P-MTIME, P-BCRGR, P-LVOL, "Soft"
882558 .		N8805401	SRW	61.0	61.7	1.1	880	922	6	P-FYELD, P-MTIME, P-BCRGR, "Soft"
882559 .		N8806001	HRW	60.6	61.7	2.1	930	998	5	P-FYELD, P-BCRGR
882560 .		N8802901	HRW	65.9	66.2	4.1	860	879	4	Q-BCRGR, Q-LVOL
882561 .		N8802902	HRW	65.5	65.4	3.7	950	944	4	Q-BCRGR
882562 .		N8803001	HRW	65.6	66.2	3.2	910	947	3	
882563 .		N8803102	HRW	66.6	65.6	3.0	995	933	3	
882564 WESTON		C1017727	HRW	67.1	66.9	2.1	970	958	3	
882565 .		N8803407	HRW	66.6	67.1	4.3	935	966	3	Q-FYELD
882566 .		N8803408	HRW	67.0	67.0	4.1	970	970	3	
882567 .		N8804202	SRW	62.0	61.8	2.2	960	948	3	P-FYELD
882568 .		N8804301	HRW	64.1	64.5	2.0	980	1005	4	Q-FYELD, Q-BCRGR
882569 .		N8804803	HRW	63.6	62.5	2.2	985	917	3	
882570 WESTON		C1017727	HRW	67.0	66.4	1.9	1020	983	2	
882571 .		N8805001	HRW	63.2	63.0	1.5	900	888	6	P-MTIME, P-LVOL, P-BCRGR, Q-FYELD
882572 .		N8805801	HRW	65.0	65.6	2.2	840	877	5	P-LVOL, P-BCRGR, Q-FYELD
882573 .		N8805901	HRW	62.1	63.1	1.4	870	932	4	P-MTIME, P-LVOL, Q-BCRGR
882574 .		N8805902	HRW	64.0	64.0	2.1	960	960	4	Q-BCRGR

PRELIMINARY HRW

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PULLMAN, WA.

NURSCO 82

LIND, WA

E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
						<u>1/</u>		<u>1/</u>	<u>3/</u>	
882575 .		N8806106	HRW	62.0	69.5	0.38	85.1	14.5	68.4	6H
882576 .		N8806107	HRW	62.0	70.0	0.40	84.6	14.0	67.9	6H
882577 .		N8806108	HRW	62.0	70.9	0.37	87.1	15.2	67.6	6H
882578 .		N8806204	HRW	62.4	69.2	0.36	85.9	13.0	67.3	4H
882579 .		N8806205	HRW	62.4	69.8	0.38	85.4	14.1	65.4	3H

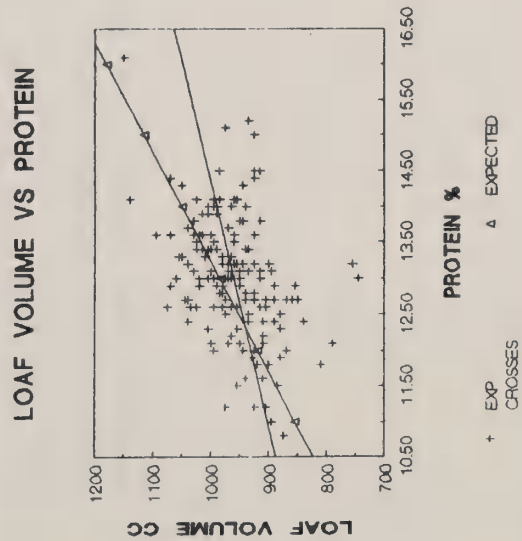
NURSCO 82

LIND, WA

E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					#?			4/		
882575 .		N8806106	HRW	70.6	69.1	5.3	985	892		3 Q-LVOL
882576 .		N8806107	HRW	69.6	68.6	4.7	940	878		3 Q-LVOL
882577 .		N8806108	HRW	70.5	68.3	5.4	935	799		3 P-LVOL
882578 .		N8806204	HRW	71.0	71.0	3.9	995	995		2 Q-FYELD
882579 .		N8806205	HRW	66.2	65.1	2.8	955	887		3 Q-LVOL

COMMENTS: This nursery includes some promising selections. Each group of experimental varieties were graded against the accompanying standard "Western". Some of the mix time values are very close to 2 minutes; which is generally considered to be the lower limit of acceptability. It is possible that several selections could drop below this level if their protein content was to be less than the high average level of 13% present in this nursery. Some selections did not achieve the expected loaf volume for their protein level (see graph), indicating a potential quality deficiency.



NURSCO 84

PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
						<u>1/</u>		<u>1/</u>	<u>3/</u>	
882600 OR860049		HURPN39	HWW	66.4	73.7	0.26	95.5	9.3	48.7	7M
882601 OR860341		HURPN40	HWW	64.0	71.8	0.31	91.0	8.3	46.8	3M
882602 OR860471		HURPN41	HWW	64.0	72.4	0.28	93.1	8.3	45.1	3M
882603 OR860701		HURPN42	HWW	63.6	73.0	0.26	94.8	8.2	44.8	6L
882604 OR8500374		HURPN43	HWW	62.4	68.1	0.30	87.6	6.6	44.3	8L
882605 OR8505311		HURPN44	HWW	60.8	70.1	0.31	89.2	6.4	44.7	8L
882606 OR8500378		HURPN45	HWW	63.6	67.5	0.34	84.9	7.2	45.1	8L

1/ Observed Values Corrected to 14% Moisture Basis3/ Absorption at 14% Moisture Corrected to 8% Protein4/ Observed Values Corrected to 8% Protein5/

Particularly Promising Overall Quality Characteristics

6/

Promising Overall Quality Characteristics

NURSCO 84

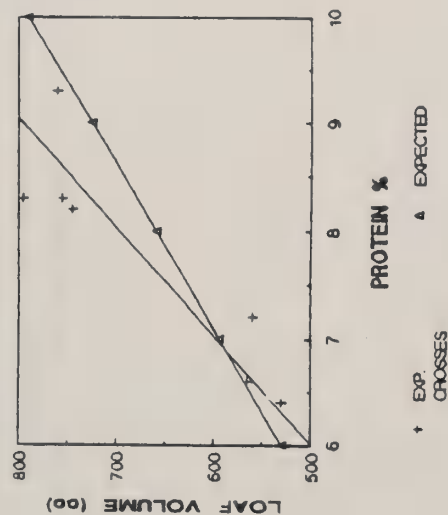
PENDLETON, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					3/			4/		
882600	OR860049	HWRPN39	HWW	50.7	49.4	3.3	760	679	6	P-BABS,Q-BCRGR
882601	OR860341	HWRPN40	HWW	47.8	47.5	2.6	795	776	6	P-BABS,Q-BCRGR
882602	OR860471	HWRPN41	HWW	46.1	45.8	2.3	755	736	9	P-BABS,P-BCRGR
882603	OR860701	HWRPN42	HWW	45.7	45.5	3.5	745	733	6	P-BABS,Q-BCRGR
882604	OR8500374	HWRPN43	HWW	43.6	45.0	3.5	565	652	9	P-FYELD,P-BABS,P-LVOL,P-BCRGR
882605	OR8505311	HWRPN44	HWW	43.8	45.4	3.4	530	629	9	Q-FYELD,P-BABS,P-LVOL,P-BCRGR
882606	OR8500378	HWRPN45	HWW	45.0	45.8	3.6	560	610	9	P-FYELD,P-BABS,P-LVOL,P-BCRGR

COMMENTS: This nursery averaged 8% flour protein. In general, most of these selections had more than one or two major deficiencies. See "Remarks". Due to low protein content of the nursery, results may not be meaningful. See nursery 064 for further comments and other selections from the same nursery.

LOAF VOLUME VS PROTEIN



USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

ADVANCED HRW I

E. DONALDSON

LIND, WA

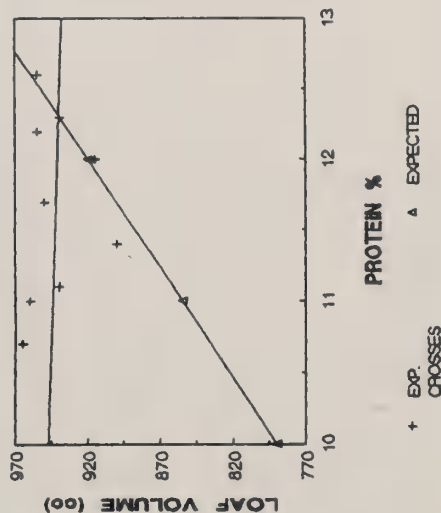
NURSCO 85

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
882607	14484//BNK/GNS/3/HTN SIB	N8701001	HRW	63.4	69.8	0.38	81.1	11.1	66.5	5H
882608	WTN/WA6583	WA7653	HRW	62.8	67.8	0.35	79.4	12.6	67.7	4H
882609	N80097/ID051022	WA7656	HRW	60.9	67.1	0.37	77.8	11.7	65.6	3H
882610	ID51022/WA6815	N8704601	HRW	62.8	71.2	0.37	84.5	12.3	67.7	5H
882611	NE75424/ID51021	WA7657	HRW	62.6	72.7	0.36	86.4	12.0	68.0	4H
882612	NE77663/WA6815	WA7658	HRW	61.9	71.4	0.35	85.9	11.4	65.3	3H
882613	286011/CON//KVZ/ID5011	N8706201	HRW	62.1	68.2	0.36	79.5	11.0	65.6	3H
882614	286011/CON/KVZ/ID5011	N8706204	HRW	61.5	64.5	0.39	72.5	11.1	66.1	6M
882615	HATTON	CI017772	HRW	62.5	70.4	0.37	83.6	12.2	67.3	4H
882616	BATUM	PI495013	HRW	60.7	71.0	0.41	80.5	10.7	66.9	2H

- 1/ Observed Values Corrected to 14% Moisture Basis
 3/ Absorption at 14% Moisture Corrected to 12% Protein
 4/ Observed Values Corrected to 12% Protein
 5/ Particularly Promising Overall Quality Characteristics
 6/ Promising Overall Quality Characteristics

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					3/			4/		
882607	14484//BNK/GNS/3/HTN SIB	N8701001	HRW	66.3	67.2	4.7	940	996	3	
882608	WTN/WA6583	WA7653	HRW	69.0	68.4	3.0	955	918	2	P-FYELD
882609	N80097/ID051022	WA7656	HRW	66.0	66.3	2.9	950	969	3	P-FYELD
882610	ID51022/WA6815	N8704601	HRW	68.7	68.4	4.7	940	921	3	
882611	NE75424/ID51021	WA7657	HRW	68.7	68.7	4.0	915	915	2	
882612	NE77663/WA6815	WA7658	HRW	64.4	65.0	2.9	900	937	3	
882613	286011/CDN//KVZ/ID5011	N8706201	HRW	64.3	65.3	3.6	960	1022	2	P-FYELD
882614	286011/CDN/KVZ/ID5011	N8706204	HRW	64.9	65.8	3.5	940	996	2	VP-FYELD
882615	HATTON	C1017772	HRW	67.2	67.0	3.4	955	943	2	
882616	BATUM	P1495013	HRW	65.3	66.6	2.3	965	1046	2	

LOAF VOLUME VS PROTEIN



COMMENTS: This nursery averaged 12% flour protein. All selections had reasonably good bread quality characteristics. Four selections had poor flour yields. See remarks. These selections demonstrate little variability in loaf volume as flour protein changes. This is not the expected response.

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

ADVANCED HRW II

NURSCO 86

LIND, WA

E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
882617	NSR/286011//SDY/ID5010	N8708202	HRW	61.3	67.4	0.37	77.2	11.9	67.7	4H
882618	NSR/CER//SXW321	WA7659	HRW	62.3	66.6	0.34	77.0	13.2	68.1	7H
882619	NSR/STK//NLV	N8708501	HRW	61.6	68.9	0.32	82.3	11.9	67.1	3H
882620	OMAR MUT/HELME//SXW321	WA7660	HRW	60.1	67.3	0.35	78.1	12.4	66.7	5H
882621	N7000063/K71056//UT92712	6/WA7650	HWW	62.1	69.6	0.37	80.4	11.7	67.9	4H
882622	N7000063/K71056//N780440	N8703501	HWW	61.6	65.7	0.32	77.3	12.2	67.4	5H
882623	BATUM/KVZ FC	N8705702	HWW	61.2	67.8	0.38	78.9	11.1	65.9	2M
882624	PI512281/LJM	N8708902	HWW	61.3	66.2	0.39	74.0	10.6	65.1	7M
882625	HATTON	C1017772	HRW	62.6	70.1	0.39	81.7	12.4	66.4	4H
882626	BATUM	PI495013	HRW	60.5	70.4	0.38	82.0	11.2	66.2	2H

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 12% Protein

4/ Observed Values Corrected to 12% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

MURSCO 86

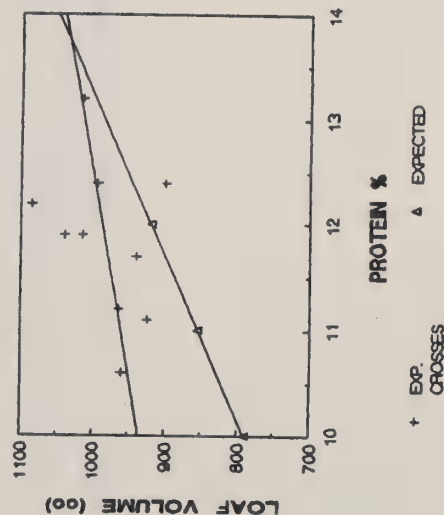
LIND, WA

E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					3/			4/		
882617	NSR/286011//SDY/ID5010	N8708202	HRW	67.3	67.4	4.0	1040	1046	2	P-FYELD
882618	NSR/GER//SXW321	WA7659	HRW	69.0	67.8	7.4	1015	941	2	P-FYELD
882619	NSR/STK//NLV	N8708501	HRW	66.7	66.8	3.2	1015	1021	3	
882620	OMAR MUT/HELME//SXW321	WA7660	HRW	66.3	65.9	4.2	995	970	2	P-FYELD
882621	N7000063/K71056//UT92712	WA7650	HRW	66.8	67.1	3.6	940	959	2	
882622	N7000063/K71056//N780440	N8703501	HRW	66.8	66.6	4.6	1085	1073	3	P-FYELD
882623	BATUN/KVZ FC	N8705702	HRW	64.2	65.1	1.9	925	981	6	P-FYELD, P-MTIME, Q-BCRGR
882624	P1512281/LJM	N8708902	HRW	62.9	64.3	3.7	960	1047	2	P-FYELD
882625	HATTON	C1017772	HRW	66.0	65.6	3.0	900	875	2	
882626	BATUN	P1495013	HRW	64.6	65.4	2.2	965	1015	4	

LOAF VOLUME VS PROTEIN

COMMENTS: This nursery averaged 12% flour protein. Of the HRW selections WA7650 appeared to have reasonably good overall quality. The other HRW selections had poor flour yields. See "Remarks" and "Footnotes".



NURSCO 87

LIND, WA

E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
882627 HATTON		CI017772	HRW	62.9	70.7	0.36	83.9	11.7	65.6	4H
882628 BATUM		PI495013	HRW	60.0	70.8	0.38	84.0	11.7	65.4	2H
882629 ANDREW		PI512282	HRW	60.9	70.5	0.36	84.2	12.6	65.7	4H
882630 FREDRICK/SPRAGUE//UNKNOWN		WA7523	HRW	61.6	70.4	0.37	83.5	11.8	65.5	4H
882631 N7701501/VH078279		WA7619	HRW	61.4	68.5	0.36	79.2	12.5	65.6	6M
882632 N7701501/VH078279		WA7620	HRW	60.8	68.0	0.35	81.3	12.7	65.1	7M
882633 N7405001/N7602301		N8407203	HRW	61.9	69.1	0.37	81.0	12.0	66.3	4H
882634 CERCO/HATTON		WA7646	HRW	63.1	72.0	0.37	85.7	11.1	65.2	4H
882635 286011/ANDREW		WA7647	HRW	60.7	71.1	0.37	84.8	11.6	65.9	4H
882636 PI512281/ID735103		WA7651	HRW	60.3	71.2	0.38	84.6	11.6	64.5	4H
882637 N81016/NE77663		N8612803	HRW	61.2	72.0	0.37	87.6	12.5	64.8	3H

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 12% Protein

4/ Observed Values Corrected to 12% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

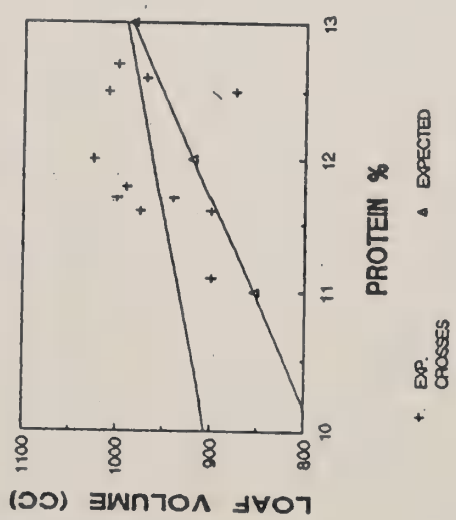
NURSCO 87

E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					3/			4/		
882627	HATTON	C101772	HRW	64.5	64.8	3.4	940	959	2	
882628	BATUM	P1495013	HRW	64.3	64.6	2.2	1000	1019	3	
882629	ANDREW	P1512282	HRW	65.5	64.9	3.4	970	933	2	
882630	FREDRICK/SPRAGUE//UNKNOWN	WA7523	HRW	64.5	64.7	3.3	990	1002	2	
882631	N7701501/VH078279	WA7619	HRW	65.8	65.3	3.9	1010	979	2	P-FYELD
882632	N7701501/VH078279	WA7620	HRW	65.5	64.8	4.2	1000	957	2	P-FYELD
882633	N7405001/N7602301	N8407203	HRW	66.0	66.0	3.6	1025	1025	2	Q-FYELD
882634	CERCO/HATTON	WA7646	HRW	64.0	64.9	3.3	900	956	3	
882635	286011/ANDREW	WA7647	HRW	65.2	65.6	3.7	900	925	2	
882636	P1512281/ID735103	WA7651	HRW	63.3	63.7	3.7	975	1000	2	
882637	N81016/NE77663	N8612803	HRW	65.0	64.5	3.1	875	844	3	P-LVOL

LOAF VOLUME VS PROTEIN

COMMENTS: This nursery had an average flour protein of 12%. All but one of the selections had loaf volumes above the expected loaf volume. See plot of Loaf Volume VS Protein and "Remarks".



C.F. KONZAK

PULLMAN, WA

NURSCO 88

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
						<u>1/</u>		<u>1/</u>	<u>3/</u>	
882638	KLASIC	PI486131	HWS	63.9	71.2	0.32	86.6	10.9	60.6	5H
882639	GOLDEN 86	CI010063	HWS	64.3	71.9	0.30	89.9	10.4	60.6	6M
882640	SPRITE		SWS	61.0	72.0	0.29	88.1	9.3	54.5	3M
882641	WESTBRED 926		HRS	62.0	71.1	0.35	85.2	10.8	59.7	6M
882642	PENEMAWA	PI495916	SWS	60.0	69.9	0.39	78.8	10.1	54.0	2M

1/ Observed Values Corrected to 14% Moisture Basis
3/ Absorption at 14% Moisture Corrected to 10% Protein
4/ Observed Values Corrected to 14% Protein
5/ Particularly Promising Overall Quality Characteristics
6/ Promising Overall Quality Characteristics

NURSCO 88

PULLMAN, WA

C.F. KONZAK

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR
					<u>3/</u>			<u>4/</u>	
882638	KLASIC	PI486131	HWS	62.2	61.3	4.7	995	939	3
882639	GOLDEN 86	CI010063	HWS	61.7	61.3	3.1	905	880	6
882640	SPRITE		SWS	53.5	54.2	1.9	930	972	4
882641	WESTBRED 926		HRS	61.2	60.4	3.3	985	935	3
882642	PENEHAWA	PI495916	SWS	54.8	54.7	1.9	935	929	8

NURSCO 88

PULLMAN, WA

C.F. KONZAK

LABNUM	VARIETY	IDNO	CLASS	COOI	COOIC 4/	RMKS
882638	KLASIC	PI486131	HWS	7.87	7.95	
882639	GOLDEN 86	CI010063	HWS	7.99	8.02	
882640	SPRITE		SWS	8.51	8.44	
882641	WESTBRED 926		HRS	7.90	7.96	
882642	PENEWAWA	PI495916	SWS	9.09	9.10	

COMMENTS: This nursery averaged 10% flour protein. Loaf volume of all cultivars were above that expected for their protein level. Sprites' cookie diameter was questionable. Penewawa had a poor milling score due to lower flour yield and higher flour ash. Golden had questionable crumb grain.

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

PLANT BREEDERS I (DUAL PURPOSE)

W.L. MCPROUD

CULDESAC, ID

NURSCO 89

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
882643 .		79-WW-57A	SNW	59.0	70.3	<u>1</u> /	91.2	<u>1</u> /	<u>3</u> /	3L

- 1/ Observed Values Corrected to 14% Moisture Basis
- 3/ Absorption at 14% Moisture Corrected to 9% Protein
- 4/ Observed Values Corrected to 9% Protein
- 5/ Particularly Promising Overall Quality Characteristics
- 6/ Promising Overall Quality Characteristics

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

PLANT BREEDERS I (DUAL PURPOSE)

NURSCO 89		CULDESAC, ID				W.L. MCPROUD			
LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR
					<u>3/</u>			<u>4/</u>	
882643 .		79-WW-57A	SWW	56.6	56.4	3.2	725	713	8

WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

PLANT BREEDERS 1 (DUAL PURPOSE)

W.L. MCPROUD

CULDESAC, ID

NURSCO 89

LABNUM	VARIETY	IDNO	CLASS	CODI	CODIC	RMKS
882643 .		79-WW-57A	SNW	9.37	9.40 4/	P-LVOL, P-BCRGR

COMMENTS: This selection had an excellent cookie spread and may be suitable for pastry flour, but is quite poor in breadbaking characteristics.

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

1987 DIPLOID WHEATS

G. MAINES

RIVERSIDE, CA

NURSCO 90

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	CODI
882644	YECORA ROJO		HRS	57.2	68.4	0.40	83.0	14.1	72.8	8.00
882645	T. URARTU	G1824	SRW	41.6	54.6	0.94	30.6	23.4	53.7	7.78
882646	T. URARTU	G3169	SRW	49.2	58.8	0.97	34.3	18.0	48.8	8.85
882647	T. MONOCOCCUM	G4535	SRW	53.2	60.7	0.68	54.8	15.5	50.2	8.64
882648	T. MONOCOCCUM	G4537	SRW	50.8	61.5	0.63	59.0	16.2	50.9	8.69
882649	T. MONOCOCCUM	G4885	SRW	58.4	67.4	0.56	71.4	14.6	44.1	9.05

LABNUM	VARIETY	IDNO	CLASS	CODIC 4/	MTYPE
882644	YECORA ROJO		HRS	7.77	7H
882645	T. URARTU	G1824	SRW	8.48	1M
882646	T. URARTU	G3169	SRW	8.96	1M
882647	T. MONOCOCCUM	G4535	SRW	8.47	1M
882648	T. MONOCOCCUM	G4537	SRW	8.60	1M
882649	T. MONOCOCCUM	G4885	SRW	8.79	1M

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 17% Protein

4/ Observed Values Corrected to 17% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

NURSCO 90

RIVERSIDE, CA

G. WAINES

LABNUM	VARIETY	Control Fl.		IDNO	CLASS	BABS	BABSC	MTIME	Calculated		BCRGR
		Blend Ratio							LVOL		
882644	YECORA ROJO	100.0%	0.0		HRS	70.6	73.5	5.2	1130		2
882645	T. URARTU	27.3	72.7	G1824	SRW	60.8	54.4	1.0	1335		6
882646	T. URARTU	92.5	7.5	G3169	SRW	50.5	49.5	0.5	620		9
882647	T. MONOCOCCUM	58.4	41.6	G4535	SRW	49.4	50.9	1.0	750		8
882648	T. MONOCOCCUM	50.9	49.1	G4537	SRW	50.8	51.6	1.0	805		8
882649	T. MONOCOCCUM	69.8	30.2	G4885	SRW	45.4	47.8	0.5	230		9

COMMENTS: We did not have sufficient flour in this group for a 100 gm (pup loaf) bread bake except for Yecora Rojo. Therefore, we blended our control flour with the diploid wheat to make up the balance (See control flour blend ratio). The bread loaf volumes shown are calculated values showing expected loaf volumes if 100% of diploid flour had been used. Yecora Rojo had excellent loaf volume and crumb grain. G1824, which was only 27.3% of the blend with the control flour showed a loaf volume of 1335cc when calculated. Our control flour has a volume near 1020 cc, so this diploid with 23.4% flour protein must have contributed to boosting the loaf volume considerably. However, the crumb grain was reduced to a very questionable level. I would question whether this blend and its results were very meaningful. The mixograph curves of all diploids were weak (short mix times, no tolerance, and low absorption). The other diploids blended with control flour showed low loaf volumes and inferior crumb grain.

Flour yield, ash and milling scores were very poor for all diploids. Cookie diameter of G3169 and G4885 were fairly good, with other diploids showing less cookie spread.

USDA, ARS
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

PNW COLLABORATIVE STUDY

ID, OR, WA

NURSCO 91

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	COOI
						<u>1/</u>		<u>1/</u>	<u>3/</u>	
882650 BLEND (PEN, DIRK, TR			SWS	59.9	77.8	0.40	86.1	9.7	55.3	9.15
882651 .		ID312	SWS	61.3	78.4	0.38	87.2	9.6	56.0	8.82
882652 WAKANZ		WA7183	SWS	63.9	79.7	0.42	84.7	9.1	56.2	9.08
882653 .		<u>6/</u> WA7176	SWS	62.9	78.8	0.39	87.1	8.6	56.6	9.05
882654 .		WA7492	SWS	62.8	77.2	0.42	85.2	9.2	56.1	8.79
882655 .		WA7496	SWS	63.2	78.3	0.44	84.2	8.9	56.4	9.02
882656 .		<u>6/</u> WA7497	SWS	65.0	80.1	0.34	89.1	9.2	57.4	9.26
882657 STEPHENS		C1017596	SWW	61.6	78.6	0.48	82.1	10.0	57.8	8.49
882658 .		ORFW301	SWW	60.6	78.6	0.45	83.6	10.8	58.8	8.95
882659 .		ORFW75336	SWW	60.8	77.1	0.47	82.7	9.4	58.4	8.29
882660 DAWS		C1017419	SWW	62.6	78.0	0.31	90.6	8.0	55.4	8.44
882661 PBI		SWW	SWW	62.2	76.3	0.33	89.6	8.7	56.1	8.90

1/ Observed Values Corrected to 14% Moisture Basis
3/ Absorption at 14% Moisture Corrected to 9% Protein
4/ Observed Values Corrected to 9% Protein
5/ Particularly Promising Overall Quality Characteristics
6/ Promising Overall Quality Characteristics

LABNUM	VARIETY	IDNO	CLASS	COOIC	MTYPE	CAVOL	SCSOR	WTIN	NOSCOR
882650	BLEND (PEN, DIRK, TR	.	SWS	9.23	2M	1235	68.0	359	72
882651	.	ID312	SWS	8.89	3M	1200	66.0	357	74
882652	WAKANZ	WA7183	SWS	9.09	2M	1195	66.0	364	72
882653	.	WA7176	SWS	9.01	2M	1255	71.0	365	77
882654	.	WA7492	SWS	8.81	2M	1200	65.0	361	75
882655	.	WA7496	SWS	9.01	3L	1235	69.0	331	73
882656	.	WA7497	SWS	9.28	4M	1260	70.0	338	71
882657	STEPHENS	C1017596	SWW	8.60	2M	1210	66.0	334	69
882658	.	ORFW301	SWW	9.15	2M	1200	67.0	335	68
882659	.	ORFW75336	SWW	8.33	2M	1225	71.0	321	69
882660	DAWS	C1017419	SWW	8.33	4L	1210	70.0	326	70
882661	PBI		SWW	8.87	5L	1295	77.0	317	68

NURSCO 91

ID, OR, WA

LABNUM	VARIETY	IDNO	CLASS	FABS	FABSC	FPEAK	FSTAB	VISC	VISCC	RMKS
882650	BLEND (PEN, DIRK, TR									
882651		ID312	SWS	57.5	56.8	3.2	3.3	111	95	
882652	WAKANZ	WA7183	SWS	55.7	55.1	3.7	4.7	118	103	Q-CODI, Q-SCSOR
882653		WA7176	SWS	57.0	56.9	3.5	3.3	82	80	
882654		WA7492	SWS	55.7	56.1	2.5	2.2	62	69	
			SWS	61.7	61.5	3.6	2.6	88	84	Q-CODI
882655		WA7496	SWS	56.2	56.3	3.5	6.2	66	67	Q-FASH
882656		WA7497	SWS	58.1	57.9	6.0	8.5	157	150	
882657	STEPHENS	C1017596	SWW	60.2	59.2	3.0	3.8	93	75	
882658		ORFW301	SWW	59.5	57.7	3.1	2.4	86	60	
882659		ORFW75336	SWW	61.5	61.1	2.5	3.0	74	58	P-CODI
882660	DAWS	C1017419	SWW	57.4	58.4	2.5	6.4	105	140	
882661	PBI		SWW	58.3	58.6	5.0	10.5	81	58	

COMMENTS: These samples represent advanced lines which are candidates for release.

Soft White Spring Selections (882650 and 882651) were grown at Aberdeen, ID.

Soft White Spring Selections (882652-2656) were grown at Lind, WA.

Soft White Winter Selections (882657-2659) were grown at Hermiston, OR.

Soft White Winter Selections (882660 and 882661) were grown at Pullman, WA.

One-two bushels were milled on a Miag Multimat (Pilot Mill) and sub-samples of the flour were sent to 16 industry laboratories for their evaluation. These cooperators represent major foreign and domestic users of PNW wheat. The protein content of some of the soft wheats were probably too high for good meaningful results. Results from the individual collaborators are summarized in the project report. See "Remarks" for our evaluation of weaknesses and major deficiencies.

NURSCO 92

PULLMAN, WA

R.E. ALLAN

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
882662 .		4441	SWW	61.0	73.1	1/ 0.38	90.2	1/ 9.0	3/ 51.3	3M

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 10% Protein

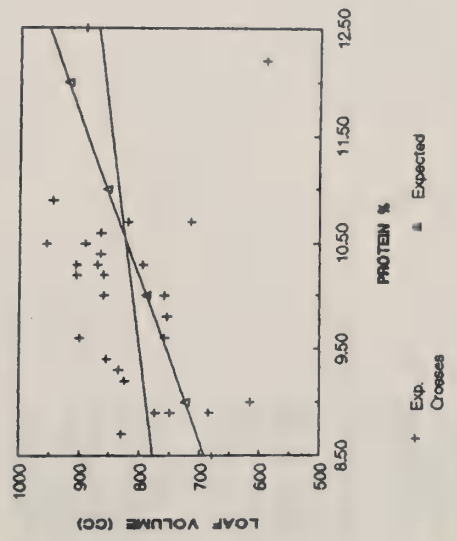
4/ Observed Values Corrected to 10% Protein

5/ Particularly Promising Overall Quality Characteristics

6/ Promising Overall Quality Characteristics

NURSCO 92	PULLMAN, WA							R.E. ALLAN			
LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	Hardness	RMKS
					<u>3/</u>			<u>4/</u>			
882662 .		4441	SMW	53.0	53.0	2.0	615	615	9	84	VP-LVOL, V

LOAF VOLUME VS PROTEIN



COMMENTS: This nursery averaged 10% flour protein. Generally the Luke selections exhibited fewer deficiencies than did the Nugaines and Stephens lines. The Luke selections had adequate loaf volume for their protein level, however bread crumb grain quality was getting near questionable. The hardness values are shown. The harder wheats generally showed a trend of having higher flour yields, very reasonable ash content and excellent milling scores. See Nursery 080 for other selections from the same nursery.

NURSCO 93

LABNUM	VARIETY	IDNO	CLASS	TWT	WMIST	WPROT	FYELD	FASH	MSCOR	FPROT
882663 7651		3-21	SWW	61.9	10.7	9.1	73.0	0.32	87.2	8.9
882664 3857		3-25	SWW	62.0	10.4	10.0	72.6	0.31	88.0	8.5
882665 3859		3-27	SWW	62.8	9.3	10.0	71.7	0.34	85.1	8.3
882666 4688		3-28	SWW	60.5	11.2	9.0	73.0	0.37	84.9	7.6
882667 4052		3-29	SWW	62.9	9.7	10.2	72.0	0.34	84.8	8.3
882668 7653		3-29	SWW	61.1	10.5	9.3	72.3	0.37	84.8	7.7
882669 3866		3-31	SWW	62.0	10.4	10.3	72.7	0.38	84.4	8.6
882670 4054		3-31	SWW	62.2	9.7	10.2	72.4	0.36	85.3	8.5
882671 7655		4-03	SWW	61.8	10.9	9.7	73.7	0.40	85.2	8.3
882672 4955		4-04	SWW	62.1	9.8	10.4	73.2	0.37	85.4	8.7
882673 4956		4-05	SWW	62.0	10.2	10.2	72.4	0.37	85.8	8.4
882674 7656		4-06	SWW	61.9	10.5	9.8	72.9	0.38	84.9	8.4
882675 4695		4-07	SWW	62.1	9.7	10.2	72.6	0.41	83.4	8.5
882676 9474		4-07	SWW	63.1	9.1	9.1	71.8	0.39	84.1	7.5
882677 3304		4-08	SWW	61.5	9.6	9.7	73.3	0.38	85.5	8.3
882678 4696		4-08	SWW	61.5	9.8	10.5	73.6	0.43	83.1	9.0
882679 7660		4-09	SWW	62.0	10.0	10.8	74.2	0.41	84.7	8.8
882680 4697		4-10	SWW	61.4	9.6	10.8	73.2	0.43	83.4	9.0
882681 7664		4-11	SWW	61.6	9.4	10.0	72.9	0.45	82.1	8.4
882682 9480		4-12	SWW	62.0	9.6	10.1	73.0	0.40	85.3	7.7
882683 7667		4-14	SWW	62.7	9.5	10.1	72.5	0.42	83.9	8.4
882684 3879		4-15	SWW	61.6	10.0	10.1	73.0	0.41	85.2	8.4
882685 4677		4-16	SWW	60.0	10.3	10.5	73.0	0.45	81.9	8.7
882686 7669		4-17	SWW	62.0	10.2	10.5	72.8	0.45	81.9	8.7
882687 7668		4-18	SWW	61.6	9.7	9.0	71.8	0.43	81.6	7.9
882688 4681		4-20	SWW	62.8	10.0	10.1	72.2	0.43	81.1	8.6
882689 7670		4-20	SWW	62.5	10.0	10.3	72.4	0.42	81.1	8.6
882690 4682		4-21	SWW	62.3	9.9	10.6	72.7	0.43	82.1	8.9
882691 4680		4-23	SWW	61.7	9.6	10.0	72.5	0.42	83.5	8.4
882692 7671		4-24	SWW	62.0	9.7	10.2	73.7	0.42	84.5	8.4

NURSCO 93

LABNUM	VARIETY	IDNO	CLASS	MABS	FABS	FPEAK	FSTAB
882663 7651		3-21	SWW	54.7	53.2	1.5	5.8
882664 3857		3-25	SWW	53.1	53.6	1.9	2.6
882665 3859		3-27	SWW	53.1	53.6	2.6	3.5
882666 4688		3-28	SWW	51.9	54.2	1.7	3.6
882667 4052		3-29	SWW	54.1	54.6	1.5	3.3
882668 7653		3-29	SWW	51.9	54.4	1.9	2.7
882669 3866		3-31	SWW	53.8	55.4	2.5	3.0
882670 4054		3-31	SWW	53.1	55.1	1.8	2.6
882671 7655		4-03	SWW	54.1	55.1	1.6	3.1
882672 4955		4-04	SWW	54.2	54.7	2.5	3.5
882673 4956		4-05	SWW	53.8	54.6	2.0	3.3
882674 7656		4-06	SWW	53.9	55.1	1.6	3.0
882675 4695		4-07	SWW	54.1	56.1	2.2	2.2
882676 9474		4-07	SWW	53.1	54.4	1.7	3.1
882677 3304		4-08	SWW	53.8	52.8	2.2	3.1
882678 4696		4-08	SWW	54.3	55.5	2.7	3.8
882679 7660		4-09	SWW	54.6	54.1	2.3	2.6
882680 4697		4-10	SWW	54.7	55.2	2.9	2.5
882681 7664		4-11	SWW	53.8	54.8	1.6	2.6
882682 9480		4-12	SWW	52.9	54.4	1.8	2.8
882683 7667		4-14	SWW	53.8	54.8	2.9	3.4
882684 3879		4-15	SWW	53.8	54.3	1.6	2.8
882685 4677		4-16	SWW	53.6	55.1	2.6	2.5
882686 7669		4-17	SWW	53.7	54.7	1.9	3.0
882687 7668		4-18	SWW	52.8	52.8	1.7	3.1
882688 4681		4-20	SWW	53.7	54.3	3.2	3.8
882689 7670		4-20	SWW	53.9	53.8	1.7	4.6
882690 4682		4-21	SWW	53.7	55.0	2.4	3.2
882691 4680		4-23	SWW	53.3	53.8	1.5	3.1
882692 7671		4-24	SWW	53.3	53.8	1.6	3.4

NURSCO 93

LABNUM	VARIETY	IDNO	CLASS	CODI	CAVOL	SCSOR	WTIN	NOSCOR	WFN	WDSI
882663 7651		3-21	SWW	9.00	1235	74.0	343	75	357	0.078
882664 3857		3-25	SWW	8.95	1230	72.0	348	75	420	0.056
882665 3859		3-27	SWW	9.00	1245	72.0	346	75	360	0.078
882666 4688		3-28	SWW	8.74	1175	67.0	336	75	304	0.085
882667 4052		3-29	SWW	8.73	1190	65.0	383	76	383	0.097
882668 7653		3-29	SWW	8.73	1225	73.0	338	73	353	0.077
882669 3866		3-31	SWW	8.86	1225	66.0	333	72	335	0.090
882670 4054		3-31	SWW	8.86	1195	66.0	335	73	280	0.208
882671 7655		4-03	SWW	8.92	1190	69.0	305	71	317	0.185
882672 4955		4-04	SWW	8.99	1225	71.0	320	71	283	0.296
882673 4956		4-05	SWW	8.90	1225	72.0	340	73	405	0.141
882674 7656		4-06	SWW	8.73	1240	72.0	334	72	245	0.360
882675 4695		4-07	SWW	8.67	1215	71.0	338	73	370	0.067
882676 9474		4-07	SWW	9.00	1275	76.0	331	73	317	0.089
882677 3304		4-08	SWW	8.85	1195	69.0	339	73	485	0.062
882678 4696		4-08	SWW	8.75	1200	70.0	349	73	377	0.087
882679 7660		4-09	SWW	8.56	1240	74.0	339	72	323	0.067
882680 4697		4-10	SWW	8.61	1210	70.0	336	72	380	0.070
882681 7664		4-11	SWW	8.64	1220	70.0	352	73	253	0.439
882682 9480		4-12	SWW	8.71	1215	69.0	340	74	371	0.080
882683 7667		4-14	SWW	8.66	1200	69.0	358	74	423	0.067
882684 3879		4-15	SWW	8.69	1215	71.0	354	74	382	0.075
882685 4677		4-16	SWW	8.85	1170	64.0	352	74	335	0.068
882686 7669		4-17	SWW	8.71	1155	64.0	347	73	397	0.079
882687 7668		4-18	SWW	8.87	1165	66.0	339	75	305	0.189
882688 4681		4-20	SWW	8.75	1215	70.0	364	75	413	0.090
882689 7670		4-20	SWW	8.86	1210	69.0	360	73	218	0.624
882690 4682		4-21	SWW	8.79	1185	70.0	376	76	300	0.124
882691 4680		4-23	SWW	8.96	1190	67.0	371	75	438	0.075
882692 7671		4-24	SWW	9.00	1235	71.0	363	75	395	0.068

NURSCO 93

LABNUM	VARIETY	IDNO	CLASS	TWT	UMIST	WPROT	FYELD	FASH	MSCOR	FPROT
882693 3886		4-25	SWW	62.0	9.6	9.9	72.8	0.44	82.8	8.3
882694 9492		4-28	SWW	62.1	9.6	9.9	73.1	0.45	82.1	8.6
882695 3309		4-29	SWW	62.1	9.1	10.4	72.8	0.45	82.3	9.2
882696 9490		4-29	SWW	62.5	9.6	10.1	73.4	0.45	82.7	8.7
882697 4071		5-01	SWW	62.5	9.5	9.8	72.6	0.41	84.4	8.5
882698 5607		5-02	SWW	62.6	9.2	10.0	72.2	0.42	82.8	8.6
882699 7672		5-03	SWW	62.0	10.7	10.2	73.3	0.44	83.9	8.2
882700 5609		5-04	SWW	61.5	10.7	9.8	73.1	0.41	84.0	8.7
882701 4073		5-05	SWW	63.3	9.3	9.5	73.0	0.41	84.8	8.4
882702 3312		5-06	SWW	61.4	10.3	11.0	73.9	0.43	84.5	9.3
882703 5674		5-06	SWW	62.3	10.0	10.3	72.4	0.46	81.1	8.9
882704 4074		5-08	SWW	62.5	9.3	10.1	73.3	0.42	85.3	9.1
882705 7675		5-08	SWW	62.2	9.3	10.0	74.0	0.41	85.7	9.1
882706 3893		5-09	SWW	62.3	10.3	9.7	73.6	0.43	83.8	8.8
882707 3313		5-10	SWW	62.3	9.6	9.8	72.0	0.41	82.1	8.8
882708 4601		5-10	SWW	62.0	9.0	10.5	73.5	0.39	85.9	8.2
882709 9493		5-10	SWW	62.5	9.4	10.3	73.3	0.43	82.3	9.0
882710 7676		5-12	SWW	61.7	9.8	10.4	72.7	0.44	82.5	9.0
882711 3314		5-13	SWW	61.7	10.0	11.1	73.1	0.43	83.0	9.1
882712 7677		5-13	SWW	61.7	10.0	10.1	72.6	0.44	81.2	9.0
882713 7678		5-14	SWW	62.0	9.4	10.0	73.6	0.41	84.9	8.8
882714 5614		5-16	SWW	62.2	9.3	10.8	73.3	0.41	84.9	8.2
882715 5615		5-17	SWW	62.0	9.8	9.7	72.4	0.40	84.8	8.1
882716 5618		5-18	SWW	61.2	10.8	10.8	72.8	0.43	81.6	8.6
882717 5619		5-19	SWW	62.5	10.0	10.5	72.7	0.41	84.4	8.9

NURSCO 93

LABNUM	VARIETY	IDNO	CLASS	MABS	FABS	FPEAK	FSTAB
882693 3886		4-25	SNW	53.2	53.7	1.8	3.4
882694 9492		4-28	SNW	53.6	54.3	2.0	3.1
882695 3309		4-29	SNW	52.7	54.2	2.7	2.5
882696 9490		4-29	SNW	53.5	54.5	1.9	2.8
882697 4071		5-01	SNW	53.2	53.9	1.5	2.6
882698 5607		5-02	SNW	54.0	55.0	3.0	3.1
882699 7672		5-03	SNW	53.9	54.9	1.6	3.5
882700 5609		5-04	SNW	53.2	53.7	1.7	4.3
882701 4073		5-05	SNW	53.4	54.5	1.7	2.3
882702 3312		5-06	SNW	53.4	54.7	2.3	2.5
882703 5674		5-06	SNW	54.4	54.7	2.3	2.9
882704 4074		5-08	SNW	54.9	54.1	2.5	3.2
882705 7675		5-08	SNW	54.8	54.8	1.4	2.9
882706 3893		5-09	SNW	53.7	54.7	1.6	2.8
882707 3313		5-10	SNW	53.6	54.6	1.6	2.7
882708 4601		5-10	SNW	54.9	54.8	1.8	3.5
882709 9493		5-10	SNW	54.3	54.8	1.8	4.0
882710 7676		5-12	SNW	54.1	55.1	1.8	3.0
882711 3314		5-13	SNW	54.2	55.2	2.2	3.2
882712 7677		5-13	SNW	54.5	55.3	2.2	2.9
882713 7678		5-14	SNW	53.7	54.7	1.7	3.0
882714 5614		5-16	SNW	53.7	55.2	1.9	3.5
882715 5615		5-17	SNW	53.8	56.1	1.8	2.5
882716 5618		5-18	SNW	53.6	55.6	2.4	2.5
882717 5619		5-19	SNW	54.2	55.7	1.7	4.1

NURSCO 93

LABNUM	VARIETY	IDNO	CLASS	COOI	CAVOL	SCSOR	WTIN	NOSCOR	WFN	WDSI
882693 3886		4-25	SWW	8.85	1235	75.0	349	74	390	0.081
882694 9492		4-28	SWW	8.64	1215	69.0	344	73	310	0.090
882695 3309		4-29	SWW	8.73	1200	68.0	360	73	380	0.124
882696 9490		4-29	SWW	8.69	1180	69.0	358	74	293	0.349
882697 4071		5-01	SWW	8.99	1195	67.0	356	74	407	0.078
882698 5607		5-02	SWW	8.93	1235	72.0	344	74	434	0.069
882699 7672		5-03	SWW	8.52	1230	72.0	342	75	387	0.067
882700 5609		5-04	SWW	8.71	1230	72.0	347	74	268	0.544
882701 4073		5-05	SWW	8.98	1230	74.0	362	76	351	0.077
882702 3312		5-06	SWW	8.59	1180	69.0	357	74	395	0.075
882703 5674		5-06	SWW	8.79	1240	70.0	340	74	361	0.088
882704 4074		5-08	SWW	8.96	1235	70.0	349	74	356	0.076
882705 7675		5-08	SWW	8.80	1245	71.0	358	75	431	0.067
882706 3893		5-09	SWW	8.98	1275	73.0	363	75	397	0.077
882707 3313		5-10	SWW	9.01	1270	75.0	369	76	387	0.070
882708 4601		5-10	SWW	8.69	1230	70.0	357	74	398	0.064
882709 9493		5-10	SWW	8.61	1205	70.0	345	77	364	0.122
882710 7676		5-12	SWW	8.91	1195	68.0	349	75	405	0.068
882711 3314		5-13	SWW	8.75	1225	67.0	353	75	448	0.076
882712 7677		5-13	SWW	8.50	1185	65.0	353	74	422	0.094
882713 7678		5-14	SWW	8.69	1215	68.0	345	75	303	0.090
882714 5614		5-16	SWW	8.62	1195	67.0	333	74	419	0.098
882715 5615		5-17	SWW	8.61	1205	67.0	337	73	393	0.084
882716 5618		5-18	SWW	8.70	1195	63.0	331	73	371	0.080
882717 5619		5-19	SWW	8.69	1225	68.0	328	72	401	0.101

N Obs	Variable	N	Minimum	Maximum	Mean	Std Dev
55	TWT	55	60.000000	63.300000	62.012723	0.5760834
	WMIST	55	9.000000	11.200000	9.8654545	0.5041378
	WPROT	55	9.000000	11.100000	10.100000	0.4690416
	FYELD	55	71.700000	74.200000	72.8836364	0.5669162
	FASH	55	0.310000	0.460000	0.4094545	0.0335779
	MSCOR	55	81.100000	88.000000	83.8545455	1.6029854
	FPROT	55	7.500000	9.300000	8.5545455	0.4017638
	MABS	55	51.900000	54.900000	53.7290909	0.6393494
	FABS	55	52.800000	56.100000	54.5836364	0.7114835
	FPEAK	55	1.400000	3.200000	2.0090909	0.4502151
	FSTAB	55	2.200000	5.800000	3.1345455	0.6212944
	COOI	55	8.500000	9.010000	8.7869091	0.1431248
	CAVOL	55	1155.00	1275.00	1214.18	26.1010081
	SCSOR	55	63.000000	76.000000	69.600000	2.9602302
	WTIN	55	305.000000	383.000000	347.2363636	13.8590305
	NOSCOR	55	71.000000	77.000000	73.9090909	1.2949006
	WFN	55	218.000000	485.000000	363.5454545	56.0363038
	WDSI	55	0.056000	0.624000	0.1269091	0.1194074

COMMENTS: Analyses were done in cooperation with U.S. Wheat Associates, Inc. who are conducting an on-going study to determine the variability of major quality factors among export cargos of Western White Wheat. This phase of the study was conducted on samples collected in the period between March 21 and May 19, 1989.

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LABNUM	VARIETY	IDNO	CLASS	TWT	WPROT	FYELD	FASH	MSCOR	FPROT	MABSC
882718	NUGAINES -PULLMAN WINTER-	CI013968	SWW	62.5	9.0	72.3	0.38	85.2	7.8	58.2
882719	STEPHENS	CI017596	SWW	60.7	10.8	74.0	0.39	86.1	9.3	57.3
882720	HATTON	CI017772	HRW	65.4	9.6	71.3	0.35	84.6	9.3	63.3
882721	LEWJAIN	CI017909	SWW	60.6	10.2	72.1	0.36	83.7	8.4	58.3
882722	TRES	CI017917	CLUB	63.4	9.9	75.2	0.38	89.2	8.5	53.3
882723	DUSTY	PI486429	SWW	60.8	10.1	72.7	0.41	84.0	8.0	58.7
882724	JOHN	PI494095	SWW	62.6	9.5	73.2	0.38	85.6	7.9	57.5
882725	BATUM	PI495013	HRW	61.9	10.5	71.2	0.33	86.2	9.3	62.6
882726	OVESON	PI512338	SWW	60.3	10.1	70.5	0.35	82.8	8.4	59.7
882727	ANDREW	WA6820	HRW	61.8	11.0	70.1	0.40	82.7	9.9	61.1
882728	MADSEN	WA7163	SWW	60.5	10.9	73.1	0.39	86.2	9.1	57.7
882729	HYAK	WA7166	CLUB	61.6	9.0	73.9	0.38	87.6	7.4	52.8
882730	CASHUP	WA7521	SWW	62.6	9.7	71.9	0.38	84.3	8.2	56.5
882731	.	WA7526	CLUB	62.3	9.4	73.9	0.39	86.5	7.9	54.2
882732	.	WA7529	SWW	60.5	8.7	72.9	0.38	86.2	7.6	57.5
882733	BURT -LIND WINTER-	CI012696	HRW	61.5	14.0	70.6	0.34	86.1	12.6	64.7
882734	MORO	CI013740	CLUB	60.9	14.0	73.2	0.38	86.1	12.0	54.8
882735	WANSER	CI013844	HRW	61.8	13.9	70.9	0.33	85.1	13.1	66.2
882736	NUGAINES	CI013968	SWW	62.2	14.1	68.2	0.38	79.0	11.9	59.6
882737	LUKE	CI014586	SWW	61.4	13.9	70.7	0.40	81.2	11.9	58.6
882738	SPRAGUE	CI015376	SWW	60.7	13.7	70.3	0.40	80.9	12.2	57.4
882739	DAWS	CI017419	SWW	60.3	13.8	69.4	0.43	77.0	12.2	57.8
882740	STEPHENS	CI017596	SWW	59.1	14.3	71.6	0.43	80.7	12.4	58.2
882741	WESTON	CI017727	HRW	61.5	14.7	69.0	0.29	85.3	13.6	68.0
882742	HATTON	CI017772	HRW	62.1	14.4	70.7	0.33	84.4	13.4	66.2
882743	LEWJAIN	CI017909	SWW	61.1	13.3	69.6	0.42	78.1	12.0	60.7
882744	TRES	CI017917	CLUB	61.2	14.2	71.8	0.41	82.5	12.9	53.3
882745	CREW	CI017951	CLUB	60.0	13.7	72.8	0.45	82.1	12.2	53.6
882746	HILL81	CI017954	SWW	60.6	14.2	71.9	0.43	81.3	13.0	60.6
882747	DUSTY	PI486429	SWW	60.4	13.2	69.8	0.40	77.3	12.0	60.2

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LABNUM	VARIETY	IDNO	CLASS	MTYPE	VISC	VISCC	COOI	COIC	CAVOL	SCSOR
882718	NUGAINES -PULLMAN WINTER-	CI013968	SWW	3L	80	197	8.61	8.15	1200	67.0
882719	STEPHENS	CI017596	SWW	2M	81	129	8.71	8.42	1210	68.0
882720	HATTON	CI017772	HRW	4M			8.09	7.87	1035	51.0
882721	LEWJAIN	CI017909	SWW	3M	92	187	9.19	8.79	1285	75.0
882722	TRES	CI017917	CLUB	1M	58	114	8.77	8.53	1265	73.0
882723	DUSTY	PI486429	SWW	4M	78	180	8.96	8.52	1245	69.0
882724	JOHN	PI494095	SWW	3L	76	181	8.61	8.16	1250	68.0
882725	BATUM	PI495013	HRW	3M			7.94	7.72	1090	56.0
882726	OVESON	PI512338	SWW	4L	88	178	8.52	8.13	1135	59.0
882727	ANDREW	WA6820	HRW	4M			7.76	7.59	1030	51.0
882728	MADSEN	WA7163	SWW	3M	118	200	8.45	8.13	1240	70.0
882729	HYAK	WA7166	CLUB	3L	89	257	8.71	8.39	1215	67.0
882730	CASHUP	WA7521	SWW	3L	81	175	8.84	8.42	1235	70.0
882731	.	WA7526	CLUB	2L	53	124	8.96	8.67	1275	74.0
882732	.	WA7529	SWW	3L	61	161	9.34	8.85	1305	76.0
882733	BURT -LIND WINTER-	CI012696	HWW	4H			7.62	7.67	1075	55.0
882734	MORO	CI013740	CLUB	2M	225	225	8.86	8.86	1250	69.0
882735	WANSER	CI013844	HRW	3H			8.09	8.18	1120	55.0
882736	NUGAINES	CI013968	SWW	1H	288	292	8.66	8.65	1225	68.0
882737	LUKE	CI014586	SWW	1H	222	225	8.81	8.80	1255	71.0
882738	SPRAGUE	CI015376	SWW	1H	288	280	8.60	8.62	1265	73.0
882739	DAWS	CI017419	SWW	2M	228	222	8.52	8.55	1230	70.0
882740	STEPHENS	CI017596	SWW	2M	207	196	8.73	8.77	1205	66.0
882741	WESTON	CI017727	HRW	2H			7.89	8.02	1130	61.0
882742	HATTON	CI017772	HRW	3H			7.90	8.01	1130	60.0
882743	LEWJAIN	CI017909	SWW	3M	225	225	8.85	8.85	1305	74.0
882744	TRES	CI017917	CLUB	1M	147	131	8.75	8.81	1200	67.0
882745	CREW	CI017951	CLUB	2M	163	158	8.77	8.79	1240	65.0
882746	HILL81	CI017954	SWW	2M	239	210	8.84	8.95	1195	62.0
882747	DUSTY	PI486429	SWW	3M	192	192	8.94	8.94	1260	71.0

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LABNUM	VARIETY	IDNO	CLASS	WTIN	NOSCOR	FABS	FPEAK	FSTAB	BABS	BABSC
882718	NUGAINES -PULLMAN WINTER-	CI013968	SWW	314	71				54.7	58.9
882719	STEPHENS	CI017596	SWW	324	71				56.3	59.0
882720	HATTON	CI017772	HRW	326	72	62.3	6.5	9.3	59.8	62.5
882721	LEWJAIN	CI017909	SWW	311	69				55.4	59.0
882722	TRES	CI017917	CLUB	344	73				48.5	52.0
882723	DUSTY	PI486429	SWW	301	70				55.4	59.4
882724	JOHN	PI494095	SWW	329	72				54.1	58.2
882725	BATUM	PI495013	HRW	321	71	62.9	4.4	5.0	59.6	62.3
882726	OVESON	PI512338	SWW	310	71				56.8	60.4
882727	ANDREW	WA6820	HRW	323	73	61.8	6.4	8.2	59.7	61.8
882728	MADSEN	WA7163	SWW	325	69				55.5	58.4
882729	HYAK	WA7166	CLUB	314	73				48.9	53.5
882730	CASHUP	WA7521	SWW	324	72				51.4	55.2
882731	.	WA7526	CLUB	351	73				48.3	52.4
882732	.	WA7529	SWW	312	70				51.8	56.2
882733	BURT -LIND WINTER-	CI012696	HRW	354	72	66.7	11.0	15.0	66.0	65.4
882734	MORO	CI013740	CLUB	362	71				53.5	53.5
882735	WANSER	CI013844	HRW	356	70	63.3	9.9	9.8	67.0	65.9
882736	NUGAINES	CI013968	SWW	349	72				58.2	58.3
882737	LUKE	CI014586	SWW	348	72				57.2	57.3
882738	SPRAGUE	CI015376	SWW	358	73				55.3	55.1
882739	DAWS	CI017419	SWW	356	72				56.7	56.5
882740	STEPHENS	CI017596	SWW	363	71				57.3	56.9
882741	WESTON	CI017727	HRW	349	70	70.7	8.2	11.5	69.3	67.7
882742	HATTON	CI017772	HRW	361	69	65.6	8.1	16.8	68.3	66.9
882743	LEWJAIN	CI017909	SWW	336	71				58.4	58.4
882744	TRES	CI017917	CLUB	349	72				51.9	51.0
882745	CREW	CI017951	CLUB	356	71				52.5	52.3
882746	HILL81	CI017954	SWW	359	72				58.8	57.8
882747	DUSTY	PI486429	SWW	336	70				57.9	57.9

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LABNUM	VARIETY	IDNO	CLASS	MTIME	LVOL	LVOLC	BCRGR	RMKS
882718	NUGAINES -PULLMAN WINTER-	CI013968	SWW	3.0	750	1002	9	
882719	STEPHENS	CI017596	SWW	2.5	760	922	9	
882720	HATTON	CI017772	HRW	3.4	770	937	8	
882721	LEWJAIN	CI017909	SWW	2.9	805	1021	8	
882722	TRES	CI017917	CLUB	1.4	540	732	9	
882723	DUSTY	PI486429	SWW	3.0	880	1120	8	
882724	JOHN	PI494095	SWW	2.3	705	951	9	
882725	BATUM	PI495013	HRW	2.4	770	937	6	
882726	OVESON	PI512338	SWW	2.6	675	891	9	
882727	ANDREW	WA6820	HRW	3.2	775	905	8	
882728	MADSEN	WA7163	SWW	2.2	740	914	8	
882729	HYAK	WA7166	CLUB	3.1	550	803	9	
882730	CASHUP	WA7521	SWW	1.3	730	958	8	
882731	.	WA7526	CLUB	1.2	540	765	9	
882732	.	WA7529	SWW	2.3	680	944	3	
882733	BURT -LIND WINTER-	CI012696	HWW	3.1	960	923	3	
882734	MORO	CI013740	CLUB	1.0	865	865	8	
882735	WANSER	CI013844	HRW	3.8	955	887	3	
882736	NUGAINES	CI013968	SWW	1.2	985	991	5	
882737	LUKE	CI014586	SWW	1.7	960	966	4	
882738	SPRAGUE	CI015376	SWW	1.5	855	843	8	
882739	DAWS	CI017419	SWW	1.5	910	898	6	
882740	STEPHENS	CI017596	SWW	1.2	855	831	7	
882741	WESTON	CI017727	HRW	2.3	1030	931	3	
882742	HATTON	CI017772	HRW	3.0	925	838	3	
882743	LEWJAIN	CI017909	SWW	1.9	925	925	4	
882744	TRES	CI017917	CLUB	1.0	625	575	9	
882745	CREW	CI017951	CLUB	1.3	745	734	9	
882746	HILL81	CI017954	SWW	1.3	920	860	5	
882747	DUSTY	PI486429	SWW	1.8	950	950	5	

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LABNUM	VARIETY	IDNO	CLASS	TWT	WPROT	FYELD	FASH	MSCOR	FPROT	MABSC
882748 JOHN		PI494095	SWW	61.5	13.2	70.3	0.32	84.7	12.0	60.8
882749 BATUM		PI495013	HRW	61.5	13.4	73.6	0.33	88.8	12.5	63.7
882750 .		ID0297	HRW	61.8	14.6	73.9	0.33	91.3	13.7	65.8
882751 SURVIVOR		ID0332	HRW	60.7	15.1	71.5	0.32	87.3	14.1	66.7
882752 MALCOLM		ORCR8313	SWW	61.1	13.4	70.5	0.38	81.5	11.9	59.7
882753 ANDREW		WA6820	HRW	60.3	14.2	70.7	0.34	85.9	13.3	66.7
882754 MADSEN		WA7163	SWW	60.3	14.2	72.9	0.44	82.9	13.1	60.0
882755 HYAK		WA7166	CLUB	60.2	13.3	71.5	0.41	80.7	12.4	59.3
882756 .		WA7523	HRW	62.2	13.7	72.0	0.31	89.8	13.0	65.4
882757 WAVERLY -PULLMAN SPRING-		CI017911	SWS	58.8	12.9	72.5	0.42	82.8	11.3	57.7
882758 EDWALL		PI477919	SWS	58.7	13.0	72.8	0.42	81.6	11.1	57.9
882759 906R		PI483455	HRS	59.5	14.6	69.1	0.30	84.4	13.4	64.7
882760 SPILLMAN		WA7075	HRS	58.1	14.2	72.5	0.40	83.6	13.5	65.8
882761 WARED -LIND SPRING-		CI015926	HRS	60.8	14.1	71.4	0.30	88.0	13.2	64.7
882762 BORAH		CI017267	HRS	61.4	14.8	69.8	0.33	83.3	13.3	64.9
882763 URQUITE		CI017413	SWS	63.0	12.8	72.8	0.43	82.2	11.7	57.9
882764 WAMPUM		CI017691	HRS	60.9	13.8	71.1	0.37	84.1	12.9	65.4
882765 MCKAY		CI017903	HRS	61.6	14.3	71.3	0.35	85.6	13.3	66.2
882766 WAVERLY		CI017911	SWS	61.7	13.1	71.6	0.42	80.4	11.8	59.8
882767 TREASURE		PI468962	SWS	61.1	13.5	72.1	0.43	81.8	12.0	59.1
882768 EDWALL		PI477919	SWS	59.3	13.6	69.4	0.44	76.5	11.8	60.4
882769 PENEWAWA		PI495916	SWS	60.5	13.7	68.5	0.45	74.0	12.3	60.3
882770 COPPER		PI502644	HRS	61.0	15.2	69.7	0.34	83.5	14.0	66.7
882771 SPILLMAN		WA7075	HRS	60.5	15.3	71.2	0.34	85.8	14.0	65.5
882772 WAKANZ		WA7183	SWS	61.3	13.3	69.9	0.44	77.2	12.0	60.8
882773 WADUAL		WA7187	SWS	61.7	15.3	69.8	0.42	77.1	13.8	65.0
882774 .		WA7328	HRS	59.9	14.5	72.1	0.32	89.1	13.5	65.2
882775 .		WA7493	HRS	62.0	14.9	72.4	0.34	88.5	14.2	65.6

DRILL STRIPS

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LABNUM	VARIETY	IDNO	CLASS	MTYPE	VISC	VISCC	COOI	COOIC	CAVOL	SCSOR
882748 JOHN		PI494095	SWM	3M	255	255	8.75	8.75	1345	76.0
882749 BATUM		PI495013	HRW	2H			7.96	8.00	1260	62.0
882750 .		ID0297	HRW	3H			7.86	8.00	1115	58.0
882751 SURVIVOR		ID0332	HRW	4H			7.85	8.02	1095	57.0
882752 MALCOLM		ORCR8313	SWM	2M	224	227	8.67	8.66	1055	66.0
882753 ANDREW		WA6820	HRW	4H			7.64	7.74	1070	60.0
882754 MADSEN		WA7163	SWM	1H	264	228	8.52	8.65	1215	67.0
882755 HYAK		WA7166	CLUB	3M	244	231	8.44	8.47	1250	70.0
882756 .		WA7523	HRW	3H			7.80	7.88	1080	56.0
882757 WAVERLY -PULLMAN SPRING-		CI017911	SWS	2M	185	206	8.60	8.52	1215	66.0
882758 EDWALL		PI477919	SWS	2M	161	184	8.62	8.53	1185	63.0
882759 906R		PI483455	HRS	5H			7.65	7.76	1065	51.0
882760 SPILLMAN		WA7075	HRS	3H			7.86	7.98	1125	57.0
882761 WARED -LIND SPRING-		CI015926	HRS	3H			7.76	7.86	1120	60.0
882762 BORAH		CI017267	HRS	2H			8.02	8.13	1120	59.0
882763 URQUIE		CI017413	SWS	2M	181	189	8.91	8.88	1270	71.0
882764 WAMPUM		CI017691	HRS	3H			8.04	8.11	1130	55.0
882765 MCKAY		CI017903	HRS	5H			8.01	8.12	1110	61.0
882766 WAVERLY		CI017911	SWS	1H	201	206	8.66	8.64	1195	69.0
882767 TREASURE		PI468962	SWS	2M	198	198	8.68	8.68	1215	71.0
882768 EDWALL		PI477919	SWS	2M	204	210	8.76	8.74	1195	69.0
882769 PENEWAWA		PI495916	SWS	4M	219	210	8.61	8.65	1200	68.0
882770 COPPER		PI502644	HRS	4H			7.93	8.09	1140	62.0
882771 SPILLMAN		WA7075	HRS	3H			7.74	7.90	1090	55.0
882772 WAKANZ		WA7183	SWS	2M	192	192	8.91	8.91	1195	65.0
882773 WADUAL		WA7187	SWS	3H	390	310	8.25	8.45	1170	63.0
882774 .		WA7328	HRS	4H			7.85	7.97	1065	54.0
882775 .		WA7493	HRS	4H			7.75	7.93	1080	62.0

PULLMAN, LIND WA

NURSCO 94

LABNUM	VARIETY	IDNO	CLASS	WTIN	NOSCOR	FABS	FPEAK	FSTAB	BABS	BABSC
882748 JOHN		PI494095	SWS	352	73				58.5	58.5
882749 BATUM		PI495013	HRW	341	70	65.7	4.9	5.7	62.9	62.4
882750		I00297	HRW	348	68	63.5	5.0	10.5	66.2	64.5
882751 SURVIVOR		I00332	HRW	353	70	67.8	7.9	15.3	68.5	66.4
882752 MALCOLM		ORCR8313	SWS	347	73				57.3	57.4
882753 ANDREW		WA6820	HRW	344	70	67.8	10.9	17.1	67.7	66.4
882754 MADSEN		WA7163	SWS	351	73				59.8	58.7
882755 HYAK		WA7166	CLUB	358	73				58.4	58.0
882756		WA7523	HRW	339	68	65.9	8.2	9.1	65.1	64.1
882757 WAVERLY -PULLMAN SPRING-		C1017911	SWS	332	73				54.7	55.4
882758 EDWALL		PI477919	SWS	385	75				55.2	56.1
882759 906R		PI483455	HRS	385	71	63.5	11.3	15.2	65.8	64.4
882760 SPILLMAN		WA7075	HRS	370	68	64.3	6.9	8.3	67.0	65.5
882761 WARED -LIND SPRING-		C1015926	HRS	350	71	64.4	7.5	7.0	64.6	63.4
882762 BORAH		C1017267	HRS	378	71	67.7	7.3	6.9	64.9	63.6
882763 URQUITE		C1017413	SWS	347	69				55.8	56.1
882764 WAMPUM		C1017691	HRS	359	69	62.1	7.8	13.4	66.0	65.1
882765 MCKAY		C1017903	HRS	346	68	63.2	10.2	13.6	67.2	65.9
882766 WAVERLY		C1017911	SWS	375	71				57.3	57.5
882767 TREASURE		PI468962	SWS	358	68				57.3	57.3
882768 EDWALL		PI477919	SWS	379	74				57.9	58.1
882769 PENEWAWA		PI495916	SWS	390	78				59.8	59.5
882770 COPPER		PI502644	HRS	372	69	67.2	8.6	10.1	68.4	66.4
882771 SPILLMAN		WA7075	HRS	379	70	67.7	7.6	11.0	66.7	64.7
882772 WAKANZ		WA7183	SWS	383	77				58.0	58.0
882773 WADUAL		WA7187	SWS	348	72				66.5	64.7
882774		WA7328	HRS	338	69	68.1	12.0	18.2	66.4	64.9
882775		WA7493	HRS	357	71	67.9	11.6	17.6	67.5	65.3

LABNUM	VARIETY	IDNO	CLASS	MTIME	LVOL	LVOLC	BCRGR	RMKS
882748 JOHN		PI494095	SWW	1.8	930	930	4	
882749 BATUM		PI495013	HRW	1.9	1010	979	4	
882750 .		ID0297	HRW	2.3	980	875	4	
882751 SURVIVOR		ID0332	HRW	3.1	965	835	5	
882752 MALCOLM		ORCR8313	SWW	1.7	960	966	5	
882753 ANDREW		WA6820	HRW	3.1	960	879	2	
882754 MADSEN		WA7163	SWW	1.4	945	879	4	
882755 HYAK		WA7166	CLUB	2.5	965	943	4	
882756 .		WA7523	HRW	2.9	950	888	5	
882757 WAVERLY -PULLMAN SPRING-		CI017911	SWS	1.8	885	927	6	
882758 EDWALL		PI477919	SWS	1.9	845	899	7	
882759 906R		PI483455	HRS	4.1	1020	933	2	
882760 SPILLMAN		WA7075	HRS	2.9	1025	932	4	
882761 WARED -LIND SPRING-		CI015926	HRS	2.9	1010	936	3	
882762 BORAH		CI017267	HRS	2.3	995	914	3	
882763 URQUITE		CI017413	SWS	1.5	830	848	9	
882764 WAMPUM		CI017691	HRS	3.7	1015	959	2	
882765 MCKAY		CI017903	HRS	4.6	1060	979	3	
882766 WAVERLY		CI017911	SWS	1.4	850	862	7	
882767 TREASURE		PI468962	SWS	2.1	805	805	7	
882768 EDWALL		PI477919	SWS	1.7	880	892	8	
882769 PENEWAWA		PI495916	SWS	3.2	980	962	5	
882770 COPPER		PI502644	HRS	3.2	1070	946	3	
882771 SPILLMAN		WA7075	HRS	2.6	1025	901	4	
882772 WAKANZ		WA7183	SWS	2.0	900	900	8	
882773 WADUAL		WA7187	SWS	3.4	1080	972	2	
882774 .		WA7328	HRS	3.4	915	822	4	
882775 .		WA7493	HRS	3.4	1055	919	3	

COMMENTS: These standard varieties were grown in large quantities by the Dept. of Agronomy and Soils, Washington State University, for the purpose of providing a resource of materials for special research projects at the Western Wheat Quality Laboratory. We express our appreciation for their cooperation. The samples grown at Lind were high in protein, as were the spring samples from Pullman.

USDA, ARS
 WESTERN WHEAT QUALITY LAB.
 PULLMAN, WA.

EAST/WEST QUALITY STUDY (PULLMAN MILL)

IN, MI, WA

NURSCO 95

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	WPROT	FPROT	MABS
						1/			1/	3/
882776 TYLER --PURDUE--			SRW	59.6	73.0	0.35	86.4	11.8	11.0	59.7
882777 AUBURN			SRW	60.2	70.7	0.32	83.1	11.5	11.2	58.9
882778 FRANKENMUTH			SRW	59.0	70.2	0.42	78.6	12.4	11.3	59.8
882779 2550			SRW	60.7	69.4	0.36	81.3	11.3	10.6	57.1
882780 ARTHUR			SRW	60.4	73.1	0.35	86.9	12.3	11.8	60.7
882781 HILLSDALE			SRW	57.2	69.3	0.40	79.4	12.4	11.1	58.0
882782 CALDWELL			SRW	60.7	74.4	0.30	92.5	10.1	9.3	54.5
882783 CARDINAL			SRW	59.7	72.9	0.36	84.3	12.3	11.0	59.2
882784 AUGUSTA			SRW	57.3	71.9	0.39	81.7	11.2	10.4	57.6
882785 HILL 81			SRW	57.6	70.2	0.40	79.5	14.2	13.0	62.4
882786 CREW			CLUB	54.5	67.1	0.50	70.0	15.0	13.5	55.8
882787 STEPHENS			SRW	53.0	68.3	0.49	70.1	14.3	12.7	57.1
882788 DAWS			SRW	57.7	65.1	0.35	74.3	13.3	11.7	57.2
882789 NUGAINES			SRW	60.8	68.1	0.35	78.2	12.1	11.0	57.6
882790 LEWJAIN			SRW	58.4	68.7	0.46	74.7	13.6	12.0	60.1
882791 TRES			CLUB	57.8	68.8	0.45	75.8	13.7	12.6	52.4
882792 TYLER --MICHIGAN--			SRW	60.8	72.7	0.41	83.3	12.1	11.0	58.9
882793 AUBURN			SRW	60.8	73.2	0.33	88.1	12.5	10.8	58.3
882794 FRANKENMUTH			SRW	60.9	72.0	0.36	85.1	11.4	9.8	56.7
882795 2550			SRW	61.4	71.3	0.35	83.7	11.5	9.8	55.2
882796 ARTHUR			SRW	61.1	73.3	0.36	86.6	12.4	11.7	58.6
882797 HILLSDALE			SRW	61.2	73.0	0.41	83.2	12.1	10.5	55.7
882798 CALDWELL			SRW	59.9	72.0	0.31	88.6	10.9	9.2	55.4
882799 CARDINAL			SRW	60.4	73.3	0.28	90.1	11.8	9.9	55.0
882800 AUGUSTA			SRW	59.3	71.7	0.31	86.7	11.2	9.6	55.0
882801 HILL 81			SRW	62.7	74.4	0.44	84.9	11.6	10.8	55.2
882802 CREW			CLUB	61.1	74.9	0.41	86.1	10.4	9.3	52.8
882803 STEPHENS			SRW	62.1	74.4	0.43	83.6	11.8	10.7	54.8
882804 DAWS			SRW	62.5	71.6	0.41	82.6	11.5	9.8	52.6
882805 NUGAINES			SRW	60.3	70.1	0.43	79.3	10.9	9.7	54.2

1/ Observed values corrected to 14% moisture basis.

3/ Absorption at 14% moisture corrected to 10% protein.

4/ Observed values corrected to 10% protein.

IN, MI, WA

NURSCO 95

LABNUM	VARIETY	IDNO	CLASS	MABSC	MTYPE	CODI	CODIC	CAVOL	SCSOR	WTIN
TGS										
882776 TYLER --PURDUE--			SRW	58.7	3M	7	8.86	1240	73.0	364
882777 AUBURN			SRW	57.7	6M	8	8.81	1235	73.0	343
882778 FRANKENMUTH			SRW	58.5	2M	8	8.81	1210	70.0	361
882779 2550			SRW	56.5	2M	7	9.10	1230	73.0	351
882780 ARTHUR			SRW	58.9	3M	7	8.65	1245	72.0	342
882781 HILLSDALE			SRW	56.9	2M	8	9.15	1275	74.0	343
882782 CALDWELL			SRW	55.2	6L	8	9.35	1255	76.0	324
882783 CARDINAL			SRW	58.2	2M	8	8.93	1215	70.0	335
882784 AUGUSTA			SRW	57.2	3M	7	8.90	1210	66.0	324
882785 HILL 81			SRW	59.4	2M	5	8.61	1205	68.0	338
882786 CREW			CLUB	52.3	2M	4	8.55	1225	69.0	334
882787 STEPHENS			SRW	54.4	2M	7	8.48	1195	69.0	325
882788 DAWS			SRW	55.5	4M	6	8.54	1185	68.0	333
882789 NUGAINES			SRW	56.6	4M	7	8.65	1230	73.0	324
882790 LEWJAIN			SRW	58.1	3M	7	8.84	1325	73.0	323
882791 TRES			CLUB	49.8	1M	7	9.02	1235	67.0	376
882792 TYLER --MICHIGAN--			SRW	57.9	3M	7	8.73	1300	74.0	361
882793 AUBURN			SRW	57.5	5M	8	9.08	1300	73.0	354
882794 FRANKENMUTH			SRW	56.9	2L	8	8.84	1295	72.0	360
882795 2550			SRW	55.4	2M	8	8.74	1315	76.0	365
882796 ARTHUR			SRW	56.9	3M	8	8.79	1290	75.0	363
882797 HILLSDALE			SRW	55.2	2M	9	9.21	1295	73.0	364
882798 CALDWELL			SRW	56.2	4L	8	9.30	1345	79.0	345
882799 CARDINAL			SRW	55.1	2M	8	8.91	1300	77.0	357
882800 AUGUSTA			SRW	55.4	3L	9	9.27	1350	79.0	354
882801 HILL 81			SRW	54.4	2M	8	8.89	1245	74.0	358
882802 CREW			CLUB	53.5	2M	8	9.21	1320	77.0	363
882803 STEPHENS			SRW	54.1	2M	7	8.81	1255	69.0	338
882804 DAWS			SRW	52.8	3L	7	8.74	1250	73.0	349
882805 NUGAINES			SRW	54.5	2M	7	8.96	1315	76.0	330

IN, MI, WA

NURSCO 95

LABNUM	VARIETY	IDNO	CLASS	NOSCOR	VISC	VISC	HARDNESS		Alpha-Amyl.	
							Wheat	Flour	FN	DSI
882776 TYLER ---PURDUE---			SRW	71	151	127	42	40	384	0.054
882777 AUBURN			SRW	70	159	129	35	27	-	0.054
882778 FRANKENMUTH			SRW	70	138	110	39	26	424	0.051
882779 2550			SRW	69	137	122	34	25	379	0.050
882780 ARTHUR			SRW	68	172	127	32	36	421	0.056
882781 HILLSDALE			SRW	71	125	103	35	36	428	0.057
882782 CALDWELL			SRW	72	118	137	45	39	413	0.054
882783 CARDINAL			SRW	71	140	117	39	26	398	0.050
882784 AUGUSTA			SRW	70	99	92	43	36	403	0.051
882785 HILL 81			SRW	68	152	96	44	36	399	0.049
882786 CREW			CLUB	67	131	79	38	40	408	0.054
882787 STEPHENS			SRW	68	115	76	35	22	311	0.143
882788 DAWS			SRW	73	139	105	44	28	442	0.059
882789 NUGAINES			SRW	71	158	132	36	29	427	0.051
882790 LEWJAIN			SRW	70	142	103	37	22	441	0.047
882791 TRES			CLUB	72	96	64	53	30	477	0.063
882792 TYLER ---MICHIGAN---			SRW	74	154	129	37	36	485	0.056
882793 AUBURN			SRW	71	168	145	29	25	461	0.054
882794 FRANKENMUTH			SRW	73	123	128	23	24	473	0.056
882795 2550			SRW	73	131	136	25	24	465	0.058
882796 ARTHUR			SRW	74	165	124	34	29	433	0.073
882797 HILLSDALE			SRW	72	104	95	25	35	481	0.050
882798 CALDWELL			SRW	74	124	147	23	32	477	0.056
882799 CARDINAL			SRW	73	139	142	25	26	382	0.061
882800 AUGUSTA			SRW	76	107	116	37	24	469	0.069
882801 HILL 81			SRW	73	111	96	31	29	439	0.055
882802 CREW			CLUB	75	72	83	31	38	484	0.077
882803 STEPHENS			SRW	70	87	77	31	27	467	0.055
882804 DAWS			SRW	73	111	116	30	29	492	0.058
882805 NUGAINES			SRW	70	112	119	23	25	474	0.057

IN, MI, WA

NURSCO 95

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	WPROT	FPROT	MABS
						1/			1/	3/
882806 LEWJAIN			SWW	61.5	72.1	0.39	83.9	11.8	9.8	55.8
882807 TRES			CLUB	61.9	75.1	0.43	86.9	10.3	9.5	49.6
882808 TYLER --PULLMAN--			SRW	60.6	71.9	0.34	86.1	9.7	7.8	52.7
882809 AUBURN			SRW	64.3	71.6	0.31	87.3	10.7	9.1	54.1
882810 FRANKENMUTH			SWW	62.3	71.8	0.29	88.1	9.4	8.3	52.9
882811 2550			SRW	63.8	71.1	0.30	86.5	9.5	8.5	52.7
882812 ARTHUR			SRW	64.4	72.8	0.28	90.5	10.7	9.3	54.3
882813 HILLSDALE			SRW	63.4	70.6	0.27	87.4	10.6	9.1	51.3
882814 CALDWELL			SRW	64.0	73.6	0.30	90.3	9.7	8.4	53.8
882815 CARDINAL			SRW	62.4	73.4	0.31	88.9	9.6	8.4	54.0
882816 AUGUSTA			SWW	61.1	71.8	0.35	84.5	9.2	7.8	52.5
882817 HILL 81			SWW	63.1	74.6	0.37	89.0	10.5	9.5	53.9
882818 CREW			CLUB	63.4	73.9	0.36	87.7	10.2	8.7	51.9
882819 STEPHENS			SWW	61.9	73.3	0.35	87.3	10.6	9.1	54.2
882820 DAWS			SWW	62.2	72.0	0.38	83.7	10.3	8.9	54.2
882821 NUGAINES			SWW	64.1	70.4	0.35	82.7	9.9	8.2	55.6
882822 LEWJAIN			SWW	62.5	73.1	0.37	86.1	10.6	9.0	57.7

IN, MI, WA

NURSCO 95

LABNUM	VARIETY	IDNO	CLASS	MABSC	MTYPE	TGS		CODIC	CAVOL	SCSOR	WTIN
						CODI	MTIN				
882806 LEWJAIN			SWW	56.0	4M	8	9.09	9.07	1300	75.0	351
882807 TRES			CLUB	50.1	1M	8	9.02	8.99	1285	75.0	350
882808 TYLER --PULLMAN--			SRW	54.9	2L	7	8.61	8.37	1170	65.0	319
882809 AUBURN			SRW	55.0	3M	8	8.77	8.68	1155	65.0	323
882810 FRANKENMUTH			SWW	54.6	2L	8	8.98	8.79	1250	72.0	333
882811 2550			SRW	54.2	2M	8	9.02	8.86	1180	69.0	339
882812 ARTHUR			SRW	55.0	2M	8	8.52	8.45	1160	64.0	341
882813 HILLSDALE			SRW	52.2	1M	8	8.92	8.83	1195	70.0	359
882814 CALDWELL			SRW	55.4	2L	8	8.74	8.56	1095	62.0	325
882815 CARDINAL			SRW	55.6	2L	7	8.70	8.52	1195	72.0	332
882816 AUGUSTA			SWW	54.7	2L	8	8.90	8.66	1225	73.0	340
882817 HILL 81			SWW	54.4	2M	7	8.81	8.76	1195	70.0	330
882818 CREW			CLUB	53.2	2M	7	8.86	8.77	1250	73.0	353
882819 STEPHENS			SWW	55.1	2M	7	8.70	8.60	1140	65.0	344
882820 DAWS			SWW	55.3	3L	6	8.58	8.45	1190	69.0	336
882821 NUGAINES			SWW	57.4	3L	6	8.52	8.33	1205	71.0	302
882822 LEWJAIN			SWW	58.7	3M	7	8.77	8.66	1205	72.0	309

IN, MI, WA

NURSCO 95

LABNUM	VARIETY	IDNO	CLASS	NOSCOR	VISC	VISCC	HARDNESS		Alpha-Amyl.	
							Wheat	Flour	FN	DSI
882806 LEWJAIN			SWW	74	100	104	27	33	464	0.053
882807 TRES			CLUB	74	62	69	26	29	487	0.059
882808 TYLER --PULLMAN--			SRW	70	58	102	29	37	367	0.054
882809 AUBURN			SRW	70	130	158	32	41	410	0.053
882810 FRANKENMUTH			SWW	70	57	85	38	36	373	0.050
882811 2550			SRW	71	63	89	37	26	392	0.053
882812 ARTHUR			SRW	73	103	119	39	35	393	0.094
882813 HILLSDALE			SRW	70	50	60	28	27	398	0.064
882814 CALDWELL			SRW	73	76	111	28	31	368	0.074
882815 CARDINAL			SRW	72	64	93	20	25	351	0.065
882816 AUGUSTA			SWW	72	48	84	31	32	372	0.057
882817 HILL 81			SWW	70	81	90	32	30	359	0.054
882818 CREW			CLUB	74	66	88	32	38	398	0.059
882819 STEPHENS			SWW	70	79	95	28	29	382	0.062
882820 DAWS			SWW	72	109	140	34	33	396	0.053
882821 NUGAINES			SWW	71	84	129	28	30	386	0.058
882822 LEWJAIN			SWW	70	93	116	32	24	399	0.057

COMMENTS: This is a cooperative project with the USDA, ARS, Soft Wheat Quality Laboratory, Wooster, OH in an effort to compare and document similarities and/or differences between Eastern Soft Red Winter Wheat and PNW Soft White Wheats. Nine SRW and seven SWW varieties which represent the major part of the current commercial production in both areas were grown in WA, IN and MI with the cooperation of R.E. Allan and E. Everson, respectively. The wheat samples were split and evaluated at both laboratories with tests routinely used to evaluate soft wheat cultivars. This group reports the findings of the sub-sample milled at the WWQL.

* Cookie TGS = Top Grain Score (Scale of 1-10 with 10 the highest).

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PULLMAN, WA

R.F. LINE

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	COOI
882872	NUGAINES X PS270	1	CLUB	58.4	66.5	0.36	82.6	10.8	54.5	9.10
882873	NUGAINES X PS270	2	CLUB	60.4	68.0	0.31	87.7	10.6	57.0	9.19
882874	NUGAINES X PS270	3	CLUB	62.0	70.6	0.37	87.2	10.0	54.3	9.36
882875	NUGAINES X PS270	4	CLUB	60.4	69.7	0.37	86.1	10.6	55.7	9.04
882876	NUGAINES X PS270	5	CLUB	62.0	69.8	0.33	88.6	10.7	54.3	9.12
882877	NUGAINES X PS270	6	CLUB	59.2	69.0	0.39	83.9	10.8	54.8	9.14
882878	NUGAINES X PS270	7	CLUB	60.8	68.0	0.40	82.0	10.2	55.6	9.48
882879	NUGAINES X PS270	8	CLUB	58.8	66.8	0.36	83.0	10.7	53.4	9.01
882880	NUGAINES X PS270	9	CLUB	58.4	69.4	0.39	84.4	10.3	55.1	9.40
882881	NUGAINES X PS270	10	CLUB	57.2	65.6	0.38	80.1	10.2	55.9	9.29
882882	NUGAINES X PS270	11	CLUB	57.6	65.9	0.40	79.3	10.0	53.3	9.14
882883	NUGAINES X PS270	12	CLUB	57.2	66.4	0.38	81.2	9.8	53.5	9.16
882884	NUGAINES X PS270	13	6/CLUB	65.2	69.7	0.29	91.7	10.0	53.4	9.01
882885	NUGAINES X PS270	14	CLUB	64.8	69.3	0.28	91.2	9.4	56.7	9.05
882886	NUGAINES X PS270	15	CLUB	62.4	67.9	0.33	86.3	11.1	54.9	8.82
882887	NUGAINES X PS270	16	CLUB	64.4	67.2	0.30	87.3	9.9	53.4	8.98
882888	NUGAINES X PS270	17	CLUB	64.0	67.2	0.31	86.7	10.0	52.6	9.04
882889	NUGAINES X PS270	18	CLUB	55.2	63.4	0.40	76.2	10.1	53.8	8.99
882890	NUGAINES X PS270	19	CLUB	56.4	63.0	0.37	77.6	10.8	54.6	8.98
882891	NUGAINES X PS270	20	CLUB	64.0	67.9	0.32	87.0	9.5	52.3	9.21
882892	NUGAINES X PS270	21	CLUB	62.0	69.7	0.39	84.8	9.9	55.4	9.02
882893	NUGAINES X PS270	22	6/CLUB	64.4	69.8	0.31	90.0	11.3	53.6	9.09
882894	LUKE X PS279	23	6/CLUB	62.8	69.8	0.32	89.4	11.2	53.1	9.11
882895	LUKE X PS279	24	CLUB	60.8	67.0	0.36	83.6	11.0	50.7	9.05
882896	LUKE X PS279	25	CLUB	60.4	66.2	0.32	84.8	11.1	53.5	9.24
882897	LUKE X PS279	26	CLUB	60.8	66.7	0.33	84.8	10.7	53.8	9.61
882898	LUKE X PS279	27	CLUB	61.2	69.3	0.39	84.4	10.1	54.9	9.42
882899	LUKE X PS279	28	CLUB	60.8	69.8	0.41	83.7	10.8	54.7	9.61
882900	LUKE X PS279	29	CLUB	62.8	70.7	0.37	87.4	10.1	55.0	9.25
882901	LUKE X PS279	30	CLUB	62.8	69.9	0.33	88.8	10.2	51.9	9.36

1/ Observed Values Corrected to 14% Moisture Basis

3/ Absorption at 14% Moisture Corrected to 10% Protein

4/ Observed Values Corrected to 10% Protein

5/

Particularly Promising Overall Quality Characteristics

6/

Promising Overall Quality Characteristics

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PULLMAN, WA

R.F. LINE

LABNUM	VARIETY	IDNO	CLASS	COOIC 4/	MTYPE	RMKS
882872	NUGAINES X PS270	1	CLUB	9.16	2M	P-TWT, P-FYELD, P-MSCOR
882873	NUGAINES X PS270	2	CLUB	9.23	2M	
882874	NUGAINES X PS270	3	CLUB	9.36	1M	
882875	NUGAINES X PS270	4	CLUB	9.08	2M	
882876	NUGAINES X PS270	5	CLUB	9.17	1M	
882877	NUGAINES X PS270	6	CLUB	9.19	3M	P-FASH, P-MSCOR
882878	NUGAINES X PS270	7	CLUB	9.49	2M	P-FYELD, P-FASH, P-MSCOR
882879	NUGAINES X PS270	8	CLUB	9.06	2M	P-FYELD, P-MSCOR
882880	NUGAINES X PS270	9	CLUB	9.42	2M	P-TWT, P-FASH, P-MSCOR
882881	NUGAINES X PS270	10	CLUB	9.30	2M	P-TWT, P-FYELD, P-MSCOR
882882	NUGAINES X PS270	11	CLUB	9.14	1M	P-TWT, P-FYELD, P-MSCOR
882883	NUGAINES X PS270	12	CLUB	9.15	1M	P-TWT, P-FYELD, P-MSCOR
882884	NUGAINES X PS270	13	CLUB	9.01	1M	
882885	NUGAINES X PS270	14	CLUB	9.01	1M	
882886	NUGAINES X PS270	15	CLUB	8.90	1M	P-FYELD
882887	NUGAINES X PS270	16	CLUB	8.97	1M	P-FYELD
882888	NUGAINES X PS270	17	CLUB	9.04	2M	P-FYELD
882889	NUGAINES X PS270	18	CLUB	8.99	2M	VP-TWT, VP-FYELD, VP-MSCOR
882890	NUGAINES X PS270	19	CLUB	9.03	2M	P-TWT, VP-FYELD, VP-MSCOR
882891	NUGAINES X PS270	20	CLUB	9.18	1M	P-FYELD
882892	NUGAINES X PS270	21	CLUB	9.02	2M	Q-MSCOR
882893	NUGAINES X PS270	22	CLUB	9.18	2M	
882894	LUKE X PS279	23	CLUB	9.20	1M	
882895	LUKE X PS279	24	CLUB	9.12	2M	P-FYELD, P-MSCOR
882896	LUKE X PS279	25	CLUB	9.32	2M	P-FYELD, P-MSCOR
882897	LUKE X PS279	26	CLUB	9.66	2M	P-FYELD, P-MSCOR
882898	LUKE X PS279	27	CLUB	9.43	2M	P-FASH, P-MSCOR
882899	LUKE X PS279	28	CLUB	9.67	2M	P-FASH, P-MSCOR
882900	LUKE X PS279	29	CLUB	9.26	2M	
882901	LUKE X PS279	30	CLUB	9.38	1M	

WESTERN WHEAT QUALITY LAB.
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PULLMAN, WA

R.F. LINE

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	CODE
						1/		1/	3/	
882962	DAWS X PS279	91	CLUB	63.6	72.0	0.31	92.7	11.0	52.8	8.86
882963	DAWS X PS279	92	CLUB	63.6	71.6	0.31	92.3	10.8	51.3	9.21
882964	DAWS X PS279	93	6/ CLUB	64.4	71.9	0.31	92.6	10.6	52.8	9.10
882965	STEPHENS X PS279	94	CLUB	64.0	73.0	0.30	94.7	10.8	51.8	8.84
882966	STEPHENS X PS279	95	6/ CLUB	63.6	73.3	0.33	93.2	9.6	52.5	9.06
882967	STEPHENS X PS279	96	5/ CLUB	64.4	72.5	0.30	94.0	10.5	52.1	9.39
882968	STEPHENS X PS279	97	6/ CLUB	64.8	72.2	0.29	94.3	11.0	52.6	9.14
882969	STEPHENS X PS279	98	CLUB	63.2	72.2	0.37	89.2	10.1	52.7	9.30
882970	STEPHENS X PS279	99	CLUB	63.2	72.6	0.37	89.8	10.3	53.3	8.99
882971	STEPHENS X PS279	100	CLUB	63.6	71.3	0.32	91.2	10.7	52.4	9.20
882972	STEPHENS X PS279	101	CLUB	61.2	72.6	0.39	88.6	8.4	51.4	9.31
882973	STEPHENS X PS279	102	5/ CLUB	63.2	73.0	0.30	94.6	10.1	52.2	9.19
882974	STEPHENS X PS279	103	CLUB	63.6	71.8	0.29	93.8	10.5	51.4	9.17
882975	STEPHENS X PS279	104	CLUB	59.6	67.9	0.34	85.7	10.6	51.0	9.20
882976	STEPHENS X PS279	105	CLUB	59.2	67.3	0.33	85.5	10.7	51.2	9.30
882977	STEPHENS X PS279	106	CLUB	62.8	71.2	0.29	93.0	10.5	47.9	8.95
882978	STEPHENS X PS279	107	6/ CLUB	61.4	73.0	0.35	91.5	8.8	49.5	9.17
882979	STEPHENS X PS279	108	5/ CLUB	62.8	74.4	0.33	94.5	9.2	49.3	9.46
882980	STEPHENS X PS279	109	6/ CLUB	62.8	72.3	0.30	94.4	10.4	50.0	9.16
882981	STEPHENS X PS279	110	6/ CLUB	63.2	72.8	0.33	92.5	10.1	48.8	9.19
882982	STEPHENS X PS279	111	CLUB	63.6	71.4	0.29	93.8	10.0	48.5	9.33
882983	STEPHENS X PS279	112	CLUB	63.6	70.6	0.29	92.2	9.8	50.0	9.01
882984	STEPHENS X PS279	113	CLUB	63.2	72.2	0.31	93.0	9.2	53.7	9.31
882985	STEPHENS X PS279	114	CLUB	61.6	69.3	0.33	88.1	9.9	55.4	9.09
882986	STEPHENS X PS279	115	CLUB	63.6	71.2	0.32	91.1	11.4	55.7	9.21
882987	STEPHENS X PS279	116	CLUB	60.4	69.0	0.32	88.3	10.3	55.5	9.09
882988	(HR-LUKE) X NUGAINES	117	CLUB	62.4	71.0	0.35	89.0	9.0	55.6	8.94
882989	(HR-LUKE) X NUGAINES	118	CLUB	58.0	66.2	0.37	81.7	10.2	57.8	8.87
882990	(HR-LUKE) X NUGAINES	119	CLUB	62.0	67.7	0.40	81.7	9.8	58.3	8.84
882991	(HR-LUKE) X NUGAINES	120	CLUB	65.2	70.3	0.29	91.8	10.2	58.4	9.06

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LABNUM	VARIETY	IDNO	CLASS	COOIC 4/	MTYPE	RMKS
882962	DAWS X PS279	91	CLUB	8.93	2M	
882963	DAWS X PS279	92	CLUB	9.27	1M	
882964	DAWS X PS279	93	CLUB	9.14	1M	
882965	STEPHENS X PS279	94	CLUB	8.89	1M	
882966	STEPHENS X PS279	95	CLUB	9.03	2M	
882967	STEPHENS X PS279	96	CLUB	9.42	2M	
882968	STEPHENS X PS279	97	CLUB	9.21	2M	
882969	STEPHENS X PS279	98	CLUB	9.31	2M	
882970	STEPHENS X PS279	99	CLUB	9.01	2M	
882971	STEPHENS X PS279	100	CLUB	9.25	1M	
882972	STEPHENS X PS279	101	CLUB	9.20	2M	
882973	STEPHENS X PS279	102	CLUB	9.19	2L	
882974	STEPHENS X PS279	103	CLUB	9.21	2M	
882975	STEPHENS X PS279	104	CLUB	9.24	1M	Q-TWT, P-FYELD
882976	STEPHENS X PS279	105	CLUB	9.35	1M	Q-TWT, P-FYELD
882977	STEPHENS X PS279	106	CLUB	8.99	1M	
882978	STEPHENS X PS279	107	CLUB	9.09	1M	
882979	STEPHENS X PS279	108	CLUB	9.41	1M	
882980	STEPHENS X PS279	109	CLUB	9.19	1M	
882981	STEPHENS X PS279	110	CLUB	9.19	1M	
882982	STEPHENS X PS279	111	CLUB	9.33	1M	
882983	STEPHENS X PS279	112	CLUB	9.00	2M	
882984	STEPHENS X PS279	113	CLUB	9.26	3M	
882985	STEPHENS X PS279	114	CLUB	9.08	4M	Q-FYELD
882986	STEPHENS X PS279	115	CLUB	9.31	1M	
882987	STEPHENS X PS279	116	CLUB	9.11	3M	Q-FYELD
882988	(HR-LUKE) X NUGAINES	117	CLUB	8.87	2M	
882989	(HR-LUKE) X NUGAINES	118	CLUB	8.89	3M	Q-TWT, VP-FYELD
882990	(HR-LUKE) X NUGAINES	119	CLUB	8.82	3M	VP-FYELD
882991	(HR-LUKE) X NUGAINES	120	CLUB	9.08	2M	

HTAP RESISTANT CLUBS

USDA, ARS
WESTERN WHEAT QUALITY LAB.
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R.F. LINE

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	CODI
882992 (HR-LUKE) X NUGAINES		121	CLUB	65.6	71.2	0.31	92.3	10.5	56.9	9.11
882993 (HR-LUKE) X NUGAINES		122	CLUB	64.0	70.1	0.29	91.6	9.6	59.2	9.05
882994 (HR-LUKE) X NUGAINES		123	CLUB	61.2	69.4	0.34	87.5	9.5	59.4	9.26
882995 (HR-LUKE) X NUGAINES		124	CLUB	64.0	69.9	0.37	86.3	9.4	59.9	8.90
882996 (HR-LUKE) X NUGAINES		125	CLUB	60.0	68.2	0.35	85.4	9.2	60.2	9.17
882997 (HR-LUKE) X NUGAINES		126	CLUB	60.0	67.9	0.43	80.0	9.7	59.4	9.02
882998 (HR-LUKE) X NUGAINES		127	CLUB	62.0	68.2	0.32	87.3	9.5	59.9	9.15
882999 (HR-LUKE) X NUGAINES		128	CLUB	62.4	68.3	0.30	88.7	9.5	58.8	9.10
883000 (HR-LUKE) X NUGAINES		129	CLUB	62.4	69.2	0.36	86.0	9.3	59.0	9.23
883001 (HR-LUKE) X NUGAINES		130	CLUB	64.4	70.1	0.32	89.7	10.4	59.2	8.96
883002 (HR-LUKE) X NUGAINES		131	CLUB	60.8	68.5	0.36	85.2	10.0	57.4	8.85
883003 EAM1		132	CLUB	64.0	72.0	0.29	94.6	10.7	57.6	8.59
883004 EAM2		133	CLUB	62.0	68.5	0.30	89.0	9.8	57.7	9.35
883005 EAM3		134	CLUB	60.0	69.3	0.41	83.1	10.3	58.3	9.29
883006 EAM4		135	CLUB	61.2	67.8	0.36	84.3	10.0	58.8	8.98
883007 EAM5		136	CLUB	63.6	69.9	0.29	91.9	9.5	57.4	9.20
883008 NUGAINES		137	SWW	63.6	69.7	0.30	90.4	9.3	59.0	8.86
883009 LUKE		138	SWW	61.6	70.2	0.29	92.3	9.8	58.1	9.46
883010 PS279		139	CLUB	64.4	73.3	0.29	96.3	10.2	53.1	9.20
883011 DAWS		140	SWW	64.0	71.1	0.29	92.8	9.1	56.7	8.75
883012 STEPHENS		141	SWW	58.0	66.5	0.30	86.4	10.4	55.1	8.76
883013 DUSTY		142	SWW	61.6	69.9	0.35	87.6	9.2	56.1	9.34
883014 LEWJAIN		143	SWW	61.2	71.3	0.26	95.6	9.7	56.1	9.16
883015 TRES		144	CLUB	64.0	73.9	0.28	97.1	10.3	48.8	9.41
883016 TYEE		145	CLUB	61.2	73.1	0.30	94.8	8.8	53.3	9.15
883017 JACMAR		146	CLUB	66.0	73.8	0.31	95.2	10.5	54.4	9.33

WESTERN WHEAT QUALITY LAB.
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PULLMAN, WA

R.F. LINE

LABNUM	VARIETY	IDNO	CLASS	CODIC 4/	MTYPE	RMKS
882992	(HR-LUKE) X NUGAINES	121	CLUB	9.15	2M	
882993	(HR-LUKE) X NUGAINES	122	CLUB	9.02	3M	
882994	(HR-LUKE) X NUGAINES	123	CLUB	9.23	3M	P-FYELD
882995	(HR-LUKE) X NUGAINES	124	CLUB	8.86	3M	P-FYELD
882996	(HR-LUKE) X NUGAINES	125	CLUB	9.12	4M	P-FYELD
882997	(HR-LUKE) X NUGAINES	126	CLUB	9.00	4M	P-FYELD
882998	(HR-LUKE) X NUGAINES	127	CLUB	9.11	3M	P-FYELD
882999	(HR-LUKE) X NUGAINES	128	CLUB	9.06	3M	P-FYELD
883000	(HR-LUKE) X NUGAINES	129	CLUB	9.18	3M	P-FYELD
883001	(HR-LUKE) X NUGAINES	130	CLUB	8.99	2M	
883002	(HR-LUKE) X NUGAINES	131	CLUB	8.85	3M	P-FYELD
883003	EAM1	132	CLUB	8.64	2M	P-ODI
883004	EAM2	133	CLUB	9.34	4M	P-FYELD
883005	EAM3	134	CLUB	9.31	3M	P-FYELD
883006	EAM4	135	CLUB	8.98	4M	P-FYELD
883007	EAM5	136	CLUB	9.16	3M	
883008	NUGAINES	137	SWW	8.79	2M	
883009	LUKE	138	SWW	9.44	2M	
883010	PS279	139	CLUB	9.21	1M	
883011	DAWS	140	SWW	8.65	3L	
883012	STEPHENS	141	SWW	8.81	2M	
883013	DUSTY	142	SWW	9.25	4L	
883014	LEWJAIN	143	SWW	9.13	2M	
883015	TRES	144	CLUB	9.43	1M	
883016	TYEE	145	CLUB	9.06	2L	
883017	JACMAR	146	CLUB	9.36	2M	

COMMENTS: This nursery had a flour protein average of 10%. Evaluation of this nursery was by cultivar groups. See "Remarks" for specific comments. Poor Flour yield was frequently a limiting quality parameter. Cookie diameters were generally very good considering flour protein level.

MURSCO 99

LABNUM	VARIETY	IDNO	CLASS	FPROT	MABS	FABS	FPEAK	FSTAB	COOI
883022 9495		6-27	SWW	8.7	53.2	53.2	2.3	3.2	8.91
883023 3898		6-29	SWW	8.5	53.2	53.4	1.7	3.0	8.96
883024 4078		7-2	SWW	8.5	52.2	53.6	2.2	2.9	8.81
883025 7681		7-8	SWW	8.5	52.4	49.7	1.8	2.8	8.74
883026 1151		7-11	SWW	8.4	53.3	54.7	1.5	2.2	8.86
883027 7682		7-11	SWW	9.2	53.4	52.9	3.3	3.3	8.70
883028 4004		7-13	SWW	9.2	53.7	54.0	2.7	3.0	8.68
883029 5623		7-13	SWW	8.6	53.2	53.7	1.6	2.8	8.70
883030 4079		7-14	SWW	9.0	53.0	53.4	1.7	2.6	8.69
883031 5624		7-15	SWW	8.3	52.5	53.2	1.8	2.5	8.83
883032 4007		7-16	SWW	8.9	52.6	53.4	2.2	3.0	9.10
883033 3318		7-17	SWW	9.6	53.2	52.2	2.2	3.3	8.94
883034 5631		7-17	SWW	9.5	52.5	51.1	1.5	3.8	9.01
883035 7683		7-19	SWW	8.2	51.7	51.8	1.5	3.0	9.02
883036 4049		7-21	SWW	8.3	51.5	52.3	1.7	3.0	8.71
883037 7684		7-21	SWW	9.0	52.3	52.6	2.0	2.3	8.93
883038 5628		7-25	SWW	8.6	50.9	52.9	1.9	2.6	8.76
883039 7685		7-25	SWW	9.2	52.5	52.5	2.3	3.0	8.85
883040 3319		7-26	SWW	8.7	51.8	51.6	2.5	3.0	9.15
883041 3320		7-27	SWW	8.8	52.8	52.6	2.2	3.4	9.24
883042 4019		7-27	SWW	9.0	52.3	51.9	1.6	3.0	8.98
883043 3321		7-28	SWW	9.1	52.5	52.9	1.9	3.0	8.98
883044 5630		7-29	SWW	9.2	52.5	51.5	1.9	3.2	8.86
883045 5639		7-29	SWW	8.8	52.2	52.0	2.9	2.7	8.76
883046 4023		7-31	SWW	9.4	51.8	52.5	2.5	2.8	8.99
883047 4022		8-1	SWW	9.2	52.9	52.9	3.0	2.5	8.91
883048 7686		8-1	SWW	9.3	52.7	53.6	2.3	2.5	9.07
883049 4040		8-2	SWW	9.3	52.6	53.2	2.3	3.2	9.10
883050 4095		8-2	SWW	9.0	53.3	53.2	2.6	3.3	9.26
883051 5633		8-2	SWW	9.1	52.3	53.3	2.6	2.5	8.95

MURSCO 98

WILBUR, WA

C.F. KONZAK

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	CODI
883018 TRES		CI017917	CLUB		72.7	0.41	87.5	11.9	47.0	9.18
883019 CREW		CI017951	CLUB		73.1	0.42	87.6	11.6	49.4	9.36
883020 HYAK		WA7166	CLUB		72.0	0.41	86.5	11.6	56.5	8.98
883021 SWS CLUB			CLUB		73.1	0.46	84.9	10.7	54.7	8.85

LABNUM	VARIETY	IDNO	CLASS	CODIC 4/	MTYPE	RMKS
883018 TRES		CI017917	CLUB	9.24	1M	
883019 CREW		CI017951	CLUB	9.41	2M	
883020 HYAK		WA7166	CLUB	9.02	3M	Q-MSCOR, Q-CODI
883021 SWS CLUB			CLUB	8.83	2M	

1/ Observed values corrected to 14% moisture basis.

4/ Observed values corrected to 11% protein.

3/ Absorption at 14% moisture corrected to 11% protein.

COMMENTS: The SWS club does not appear to be as good in quality as the checks; especially in Mill score and cookie diameter. These data are only for a very small amount of wheat and are not conclusive in any way.

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LABNUM	VARIETY	IDNO	CLASS	FPROT	MABS	FABS	FPEAK	FSTAB	COOI
883022 9495		6-27	SWW	8.7	53.2	53.2	2.3	3.2	8.91
883023 3898		6-29	SWW	8.5	53.2	53.4	1.7	3.0	8.96
883024 4078		7-2	SWW	8.5	52.2	53.6	2.2	2.9	8.81
883025 7681		7-8	SWW	8.5	52.4	49.7	1.8	2.8	8.74
883026 1151		7-11	SWW	8.4	53.3	54.7	1.5	2.2	8.86
883027 7682		7-11	SWW	9.2	53.4	52.9	3.3	3.3	8.70
883028 4004		7-13	SWW	9.2	53.7	54.0	2.7	3.0	8.68
883029 5623		7-13	SWW	8.6	53.2	53.7	1.6	2.8	8.70
883030 4079		7-14	SWW	9.0	53.0	53.4	1.7	2.6	8.69
883031 5624		7-15	SWW	8.3	52.5	53.2	1.8	2.5	8.83
883032 4007		7-16	SWW	8.9	52.6	53.4	2.2	3.0	9.10
883033 3318		7-17	SWW	9.6	53.2	52.2	2.2	3.3	8.94
883034 5631		7-17	SWW	9.5	52.5	51.1	1.5	3.8	9.01
883035 7683		7-19	SWW	8.2	51.7	51.8	1.5	3.0	9.02
883036 4049		7-21	SWW	8.3	51.5	52.3	1.7	3.0	8.71
883037 7684		7-21	SWW	9.0	52.3	52.6	2.0	2.3	8.93
883038 5628		7-25	SWW	8.6	50.9	52.9	1.9	2.6	8.76
883039 7685		7-25	SWW	9.2	52.5	52.5	2.3	3.0	8.85
883040 3319		7-26	SWW	8.7	51.8	51.6	2.5	3.0	9.15
883041 3320		7-27	SWW	8.8	52.8	52.6	2.2	3.4	9.24
883042 4019		7-27	SWW	9.0	52.3	51.9	1.6	3.0	8.98
883043 3321		7-28	SWW	9.1	52.5	52.9	1.9	3.0	8.98
883044 5630		7-29	SWW	9.2	52.5	51.5	1.9	3.2	8.86
883045 5639		7-29	SWW	8.8	52.2	52.0	2.9	2.7	8.76
883046 4023		7-31	SWW	9.4	51.8	52.5	2.5	2.8	8.99
883047 4022		8-1	SWW	9.2	52.9	52.9	3.0	2.5	8.91
883048 7686		8-1	SWW	9.3	52.7	53.6	2.3	2.5	9.07
883049 4040		8-2	SWW	9.3	52.6	53.2	2.3	3.2	9.10
883050 4095		8-2	SWW	9.0	53.3	53.2	2.6	3.3	9.26
883051 5633		8-2	SWW	9.1	52.3	53.3	2.6	2.5	8.95

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LABNUM	VARIETY	IDNO	CLASS	CAVOL	SCSOR	WTIN	NOSCOR	WFN	WDSI
883022 9495		6-27	SWW	1215	70.0	341	73	366	0.050
883023 3898		6-29	SWW	1200	68.0	329	74	380	0.051
883024 4078		7-2	SWW	1190	70.0	318	70	317	0.079
883025 7681		7-8	SWW	1135	61.0	338	73	376	0.059
883026 1151		7-11	SWW	1180	65.0	331	72	364	0.067
883027 7682		7-11	SWW	1225	67.0	333	70	360	0.049
883028 4004		7-13	SWW	1215	71.0	325	71	399	0.052
883029 5623		7-13	SWW	1230	69.0	326	71	371	0.062
883030 4079		7-14	SWW	1210	68.0	312	69	371	0.070
883031 5624		7-15	SWW	1195	65.0	306	71	275	0.131
883032 4007		7-16	SWW	1220	66.0	319	71	407	0.075
883033 3318		7-17	SWW	1210	66.0	332	71	415	0.051
883034 5631		7-17	SWW	1215	69.0	328	71	384	0.053
883035 7683		7-19	SWW	1210	68.0	331	72	390	0.063
883036 4049		7-21	SWW	1190	66.0	346	74	331	0.128
883037 7684		7-21	SWW	1210	70.0	336	72	412	0.054
883038 5628		7-25	SWW	1210	70.0	333	72	382	0.058
883039 7685		7-25	SWW	1175	66.0	332	72	419	0.046
883040 3319		7-26	SWW	1220	70.0	321	72	342	0.081
883041 3320		7-27	SWW	1135	60.0	343	73	371	0.053
883042 4019		7-27	SWW	1255	64.0	346	73	373	0.047
883043 3321		7-28	SWW	1200	67.0	350	73	386	0.047
883044 5630		7-29	SWW	1215	69.0	336	70	383	0.057
883045 5639		7-29	SWW	1200	64.0	333	72	384	0.050
883046 4023		7-31	SWW	1190	62.0	350	72	360	0.046
883047 4022		8-1	SWW	1275	70.0	346	72	400	0.047
883048 7686		8-1	SWW	1265	70.0	336	70	329	0.048
883049 4040		8-2	SWW	1240	70.0	336	69	379	0.048
883050 4095		8-2	SWW	1285	73.0	345	72	378	0.054
883051 5633		8-2	SWW	1225	71.0	343	72	284	0.190

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LABNUM	VARIETY	IDNO	CLASS	TWT	WMIST	WPROT	FYELD	FASH	MSCOR
883052 5634		8-2	SWW	61.7	9.5	10.2	73.0	0.43	81.0
883053 7687		8-2	SWW	61.2	10.3	10.7	71.5	0.42	79.1
883054 4959		8-3	SWW	62.6	10.2	10.7	71.7	0.43	79.0
883055 7688		8-3	SWW	62.1	11.2	10.0	70.6	0.42	78.3
883056 1159		8-4	SWW	61.3	10.3	10.4	74.2	0.30	88.6
883057 4960		8-4	SWW	62.3	9.9	10.4	73.2	0.41	82.7
883058 4098		8-4	SWW	62.4	10.3	10.2	73.0	0.38	82.8
883059 7689		8-4	SWW	62.3	10.8	10.2	71.8	0.38	81.3
883060 4027		8-5	SWW	62.1	9.8	10.2	71.9	0.41	81.6
883061 7690		8-5	SWW	62.6	11.2	11.0	67.7	0.38	72.8
883062 3322		8-6	SWW	62.2	10.0	11.6	70.5	0.43	75.6
883063 1160		8-7	SWW	62.5	9.5	9.6	72.6	0.40	81.0
883064 1161		8-7	SWW	62.2	10.3	10.4	71.8	0.39	80.7
883065 7691		8-7	SWW	62.3	10.1	10.0	71.9	0.36	82.9
883066 1162		8-8	SWW	61.5	10.2	10.7	71.9	0.38	80.7
883067 1163		8-8	SWW	60.9	11.2	10.9	70.1	0.36	79.3
883068 1165		8-9	SWW	62.9	11.2	9.4	73.2	0.40	81.4
883069 3330		8-9	SWW	62.4	10.3	10.2	71.8	0.39	81.4
883070 4030		8-9	SWW	62.5	10.0	10.5	72.6	0.39	82.0
883071 7692		8-10	SWW	62.0	11.8	9.5	72.4	0.37	84.4
883072 1170		8-11	SWW	61.8	9.6	11.8	70.6	0.38	79.3
883073 4036		8-12	SWW	62.2	10.4	10.7	71.6	0.41	79.5
883074 7693		8-12	SWW	61.7	11.3	9.9	72.6	0.37	83.7
883075 3334		8-15	SWW	61.3	10.0	11.0	72.5	0.40	82.2
883076 7697		8-15	SWW	62.2	10.8	10.5	73.3	0.42	81.7

NURSCO 99

LABNUM	VARIETY	IDNO	CLASS	FPROT	MABS	FABS	FPEAK	FSTAB	COOI
883052 5634		8-2	SWW	8.9	52.8	53.2	2.0	2.5	8.98
883053 7687		8-2	SWW	9.3	53.3	53.2	2.7	2.6	8.91
883054 4959		8-3	SWW	9.0	53.0	53.7	2.6	2.6	8.69
883055 7688		8-3	SWW	8.9	53.7	55.8	1.6	2.6	8.91
883056 1159		8-4	SWW	9.0	53.2	54.2	2.6	3.0	8.74
883057 4960		8-4	SWW	9.3	53.6	54.3	2.4	2.7	8.89
883058 4098		8-4	SWW	8.7	53.0	53.3	2.5	2.8	8.95
883059 7689		8-4	SWW	8.9	53.3	54.0	2.0	2.6	8.98
883060 4027		8-5	SWW	9.1	53.1	49.6	1.8	2.3	8.99
883061 7690		8-5	SWW	9.6	55.8	50.4	1.5	2.3	8.85
883062 3322		8-6	SWW	9.6	54.4	51.4	2.0	2.7	8.89
883063 1160		8-7	SWW	8.6	53.5	50.3	1.5	2.5	8.70
883064 1161		8-7	SWW	9.0	53.7	50.9	2.0	3.3	8.93
883065 7691		8-7	SWW	9.2	53.7	50.2	1.5	2.9	8.70
883066 1162		8-8	SWW	9.2	53.5	51.1	2.2	3.0	8.92
883067 1163		8-8	SWW	9.3	53.6	50.8	1.6	2.6	8.96
883068 1165		8-9	SWW	8.5	52.9	51.0	1.7	2.1	8.99
883069 3330		8-9	SWW	8.8	53.4	50.9	1.9	3.0	8.85
883070 4030		8-9	SWW	8.9	53.0	51.0	1.6	2.5	8.75
883071 7692		8-10	SWW	8.5	52.9	50.9	1.9	2.6	8.77
883072 1170		8-11	SWW	10.0	54.6	50.2	2.5	3.6	8.84
883073 4036		8-12	SWW	9.3	53.4	50.9	2.0	3.0	8.85
883074 7693		8-12	SWW	8.6	52.9	49.4	2.0	3.3	8.79
883075 3334		8-15	SWW	9.7	53.3	50.7	2.3	2.4	8.87
883076 7697		8-15	SWW	9.2	53.4	51.1	1.8	2.6	8.90

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LABNUM	VARIETY	IDNO	CLASS	CAVOL	SCSOR	WTIN	NOSCOR	WFN	WDSI
883052 5634		8-2	SWW	1285	75.0	334	71	363	0.045
883053 7687		8-2	SWW	1195	67.0	336	72	350	0.056
883054 4959		8-3	SWW	1240	67.0	336	70	363	0.044
883055 7688		8-3	SWW	1275	76.0	322	70	366	0.049
883056 1159		8-4	SWW	1245	72.0	333	73	364	0.047
883057 4960		8-4	SWW	1195	68.0	350	72	340	0.052
883058 4098		8-4	SWW	1150	66.0	346	72	365	0.045
883059 7689		8-4	SWW	1185	67.0	348	71	360	0.053
883060 4027		8-5	SWW	1255	72.0	350	71	375	0.055
883061 7690		8-5	SWW	1295	76.0	350	73	340	0.071
883062 3322		8-6	SWW	1280	74.0	329	70	326	0.068
883063 1160		8-7	SWW	1225	70.0	327	70	369	0.062
883064 1161		8-7	SWW	1250	71.0	331	70	311	0.076
883065 7691		8-7	SWW	1285	74.0	339	70	326	0.093
883066 1162		8-8	SWW	1285	74.0	334	70	345	0.066
883067 1163		8-8	SWW	1250	73.0	317	69	361	0.061
883068 1165		8-9	SWW	1220	68.0	318	70	298	0.178
883069 3330		8-9	SWW	1210	67.0	329	71	364	0.067
883070 4030		8-9	SWW	1290	77.0	343	71	356	0.062
883071 7692		8-10	SWW	1255	74.0	329	71	323	0.109
883072 1170		8-11	SWW	1235	71.0	362	72	398	0.058
883073 4036		8-12	SWW	1220	70.0	346	70	377	0.065
883074 7693		8-12	SWW	1225	69.0	337	70	343	0.074
883075 3334		8-15	SWW	1250	71.0	349	72	349	0.065
883076 7697		8-15	SWW	1280	75.0	355	70	324	0.093

N Obs	Variable	N	Minimum	Maximum	Mean	Std Dev
55	TWT	55	60.5000000	63.4000000	61.9709091	0.6338222
	WMIST	55	9.2000000	11.8000000	10.2509091	0.5662982
	WPROT	55	9.3000000	11.8000000	10.3127273	0.5470644
	FYELD	55	67.5000000	74.2000000	71.9745455	1.3453924
	FASH	55	0.3000000	0.4400000	0.3994545	0.0238373
	MSCOR	55	72.8000000	88.6000000	81.0309091	2.8179236
	FPROT	55	8.2000000	10.0000000	8.9854545	0.3889293
	MABS	55	50.9000000	55.8000000	52.9818182	0.7810465
	FABS	55	49.4000000	55.8000000	52.2600000	1.4433244
	FPEAK	55	1.5000000	3.3000000	2.0800000	0.4356349
	FSTAB	55	2.1000000	3.8000000	2.8272727	0.3602749
	CODI	55	8.6800000	9.2600000	8.8918182	0.1368439
	CAVOL	55	1135.00	1295.00	1225.82	38.4269827
	SCSOR	55	60.0000000	77.0000000	69.2545455	3.7526197
	WTIN	55	306.0000000	362.0000000	335.4727273	11.3771287
	NOSCOR	55	69.0000000	74.0000000	71.2727273	1.2539500
	WFN	55	275.0000000	419.0000000	360.8000000	31.0527627
	WDSI	55	0.0440000	0.1900000	0.0669091	0.0296537

